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Soviet Education and Manpower Policies
in the 1950s

A thesis submitted in partial fulfillment
of the requirements for a degree of MLitt

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Part I

Soviet Education -- Summary

The research for this thesis originally sought to develop the perspective that the Khrushchev reforms of 1958 were phenomena of the post war period. During the course of the work, it soon emerged that links existed among education, social, and economic priorities which would not be explained outside the context of earlier experiences and decisions. Soviet educators of the 1920s had relied on experimentation for solutions to education theory and organization. In the 1930s, however, Stalin separated education policy from the administration of the system, largely pre-empting the process of taking decisions on the basis of experiments. The evolution of education and training systems in the Soviet Union (including that envisaged in the 1958 reforms) can be traced against the development of sectoral priorities.

In the early period after the Revolution, Soviet educators set a framework for education which has lasted through the years. The basic principles were equal access to nonsectarian, polytechnic education, and a system of free education through higher levels. These were utopian in the context of the early period of Soviet rule. The principles were each sacrificed at one or other period of economic or political difficulty, but reinstated as opportunity allowed.

Factors precluding early implementation of a uniform, universal Soviet education system were extreme economic difficulties, coupled with the temporary displacement of governmental institutions and delays in relaying decisions to decentralized groups due to such factors as the poor communications network. Moreover, the Soviet

leadership needed to gain experience as a bureaucracy, and it had inherited a country characterized by illiteracy and an uneven education infrastructure.

The overriding challenge was in creating an integrated social and economic system. From the 1920s, the integration of education into the planning for development of the country established the pace for expanding education, particularly as leaders linked levels of education in the workforce with industrial labor needs. The demand for compulsory and universal education should have created a massive drive in the education sector, but this did not occur. By the mid-1920s, it was clear that industrial development could be achieved only by an infusion of large numbers of educated managers and a technically skilled, literate workforce. Generally, the 1930s was a period of competing priorities, but the needs of industry for trainable workers were foremost. This was not always compatible with the longer-term needs of the country for educating youth through higher education.

Education theory did not keep pace with the rapid implementation of universal and compulsory education after the Stalin reforms of the early 1930s. Uneasy links were established among general education as it had been practiced before the Revolution, the new ideology (itself not fully absorbed into the school program), and the pressing needs of the economy for skilled workers. During the 1930s, educators failed in their attempts to integrate labor training and theory into general education, so that industry established parallel systems of part-time and technical education which relied on the economic unit for material support and for its faculties. Development of the

part-time programs depended significantly on the attitudes of industrial management toward non-productive investment, and as a result there were uneven training standards throughout the economy. Generally, the programs involved short-term training for new workers and re-training for labor faced with changed employment conditions.

It was supposed that a national training system for new entrants to the labor force would relieve industry of a major drain on financial and personnel resources and would enhance economic performance by providing a uniformly trained workforce. It was also pointed out that many economic managers and other leaders in Soviet society did not have sufficient theoretical grounding in their work disciplines. As a result of the perceived gap in the education system, the State Labor Reserve system was created in 1940, and offered training to school-aged youth prior to industrial employment. The system was predicated on a combination of condensed general education and specific skills training. Advanced courses for managers were offered through part-time systems of technical and higher education. The programs were designed to bring educators, industrial managers, and others to standards established for their employment. Both systems were particularly important in the post-war period.

War created a special burden on the Soviet economic and education systems. In the first place, population losses were massive and disruptive, and combined with physical destruction of the industrial, economic, and social fabrics of the Soviet Union, served to retard development of the country for nearly a decade. Compensation for war-generated losses had to be found in the post-war period. In the second place, the economic programs of the post-war leadership

made industrial rehabilitation the first priority, and only then turned to social and cultural issues. The economic policies were complicated by changes in government leadership and programs which focussed on regional expansion.

Rehabilitation of Soviet education was largely due to the momentum sustained from the rapid expansion during the pre-war years. Soviet educators desired to bring into the system individuals whose educations were delayed by war, and they expanded the systems of part-time education for this purpose. Numerous reasons for expanding education were given, but it is clear that the immediate goal was in compensating for losses of educated cadres in the economy. However, expanding education lasted far beyond the period of reconstruction and was accompanied by renewed questions concerning theory and organization of education.

Leninist principles of Soviet education sought to develop a concept of education which was "polytechnic/labor training and general studies". This broad concept of education was never satisfactorily defined, and attempts to introduce labor training into the schools were abandoned in the 1930s. Reinvestigation of the concept assisted de-Stalinization efforts, as it was declared that separate systems of education and technical training might eventually result in class and social inequalities unjustifiable in the Soviet state. Moreover, it was argued that polytechnic/education would enhance economic development in the Soviet Union in a period of labor constraints and rapid technological progress. Changes in textbooks and curricula were part of experiments carried out in the mid-1950s introducing various forms of labor training and polytechnic/studies

in the schools. The efforts were complemented by requirements for summer employment of older students and admissions policies to higher education institutions biased in favor of worker-students.

The economy was reorganized several times during the 1950s. The first reorganizations concerned investment in consumer goods production and agriculture. Other efforts decentralized economic planning and management. As a result of the changes, strong demands for trained personnel were heard consistently through the decade. Reforms in economic organization were also coupled with changes in labor and social security laws, and in particular revisions were made to laws governing wages, pensions, and labor turnover. The changes had special implications for the availability of labor to industry. At first, decentralization was accomplished by requirements that many personnel from former central authorities relocate into the regions. This could not be sustained for reasons of the sheer magnitude of workers required in the regions, poor social/cultural conditions in the new development areas, and the pace of economic growth. These factors generated an objective need for changes in Soviet education, but raised important questions about Soviet nationality policies, distinctions between rural and urban standards of living, and principles of Soviet education concerning equal access. These issues, clearly important, are so substantial in themselves, they are only acknowledged rather than developed as themes in this thesis.

Khrushchev's program for economic development and socio-economic reform was undertaken partly to effect de-Stalinization, but also to accomplish a transition from socialism to communism. He inherited a commitment to education which specifically included

access to higher secondary studies. Khrushchev's problems were balancing the needs of industry for manpower against his own commitment for improving social and cultural conditions in the country.

Through the 1950s, labor was drawn from a variety of conventional resources including increased participation by women and pensionable workers, demobilization of the military, and continued stress on labor productivity increments through technological innovations, adaptation, and hard work. By the end of the decade, however, the majority of working-age youth were involved in the education system and new increments to the labor force were complicated by the reduced numbers of youth above the age of 16 caused by low war-time birth rates. This presented a problem to industry, since manpower options exercised during the previous years were no longer as advantageous, with the exception of increased labor productivity through technological advances. Other options, such as redistribution of the labor force according to rational criteria for its utilization, could not be accomplished since the information required for such decisions was not available. Unwilling to sacrifice the goals for economic growth, the government was forced to turn to youth as the remaining manpower reserve.

Khrushchev promoted the return to polytechnic education as a way to balance expectations for increased labor productivity of new workers against the needs for continued expansion of education. It was argued that economic growth might be achieved if new workers (even if they were fewer in number) had the skills and knowledge of more experienced employees. Reforms stressed the role of the worker-student, decentralization of education and

regional development, and competition for the full-time spaces in programs based on academic performance. Students were obliged to work between, during, and after their studies. In addition, laws governing social parasites (e.g., the able-bodied unemployed) created an incentive for complying with work requirements.

Despite the various experiments in the 1950s which incorporated labor training into education, Khrushchev's reforms were based largely on political and economic judgements rather than on complete assessments of the effectiveness of proposed measures for raising labor productivity. The reforms bought time for developing information required for reorganizing the labor force according to objective criteria for its use and distribution. The reforms were ideologically acceptable in that the decentralized system increased access for all students and reiterated a commitment to the work ethic which would arguably assist a transition to communism. Again, issues of ideology are of such scope and importance that they are generally only acknowledged in text.

Expansion took place in the forms of an additional year of junior secondary education and part-time and correspondence programs at the secondary and higher education levels. The reforms responded to regional and local needs for educated cadres in decentralized economic activities, including industry and agriculture. Problems with Khrushchev's program were anticipated. For example, some industrial managers resisted employing youth since student-aged workers commanded a short work-day at full pay-rates, and there were higher failure and dropout rates among worker-students. Additionally, the education system was inadequately prepared to offer studies of comparable

standard to the full-time programs. Moreover, in the period of continuous economic reorganization and inadequate planning for manpower and education, dependence on the regional and local authorities for financial support of massive development in education confronted predictable obstacles. Investment in education by the localities might be lost in the process of redirecting personnel to projects of national priority, and there were few guarantees that educated manpower would remain in the regions in the absence of restrictions on labor turnover or substantial investment in social infrastructure. Exhortations for avoiding such complications were included in the presentation of the reform package.

Part II

Soviet Education Between 1917 and 1929

Introduction

During the 1920s, Soviet education was characterized by experiments and adaptation to revolutionary values. Pressures emerged for standardizing concepts and methods in education and for developing specific labor resources for the economy. The unique characteristic of the Soviet experience was the extent to which, in times of profound social and political upheaval, the Soviet government linked the development of education to the economy.

Many promises were made to the Soviet citizenry concerning access to education. Guarantees in the 1924 Constitution were expressed in terms of State responsibilities and needs. Opportunities for education became available to an increasingly broad spectrum of the Soviet population from the mid-1920s, although by no means was there equal access to education from either social or geographic perspectives. On the contrary, political concerns surrounding the creation of a new intelligentsia frequently abrogated Constitutional guarantees for some sectors of the population. The 1936 Constitution, which recognized rights of individuals to education, clearly did not intend academic training to become an open-ended bargain for all. Social factors (rural and urban opportunities and class distinctions, in general, and de facto preferential treatment of Russians and Ukrainians, in particular) implicitly influenced access to and structure of education.

It is possible that diversity in school programs in the post-revolutionary period reflected not so much a desire on the part of the new government to encourage experimentation, as the disorganization

of an inexperienced leadership and bureaucracy. Just as the economy, for instance, was in a precarious condition, other aspects of Soviet life were subjected to a period of instability prior to consolidation of governmental power, policies, and objectives. The desire for education, of course, was realized for the first time by many citizens, but massive economic and extreme degrees of social and political change were also envisaged.

It was in the links between education and economic development that Soviet educators found great difficulty, for in no country was there a model for an education system which could accommodate the aims of the Soviet state. Thus, Narkompros initiated a process during the 1920s which was unsuccessful in expanding opportunities for education or for general literacy. It was, however, in these years that the idea of linking education and manpower needs in the economy became the imperative of Soviet education.

This chapter addresses the evolution of education, its organization and related infrastructure, connections between education and labor, and problems which remained outstanding at the end of the 1920s. Of necessity, the presentation skirts over much which could stand a more vigorous investigation. The emphasis is placed on progress toward universal education in the Soviet Union.

Soviet Education After the Revolution

Soviet education policies were adopted gradually, beginning the day after the Bolshevik Revolution, with the decree, "On the Formation of the Government of People's Commissars".¹ The decree established the organizational framework of the Soviet government and named the principle leaders of its administrations. A. V. Lunacharsky was entrusted with directing the Commissariat of Education (Narodnyi kommissariat prosveshcheniya, Narkompros). The establishment of the Commissariat was regarded as an improvement over pre-revolutionary administration of education, when programs and policies were developed and implemented on a semi-coordinated basis by central authorities, localities, private groups, and religious organizations.²

Several tasks awaited action by the Commissariat: identification of Soviet education goals, promotion of an organizational infrastructure through which Communist ideals and the education system would be mutually sustaining, and selection of education techniques and syllabuses for accomplishing tasks of educating citizens and workers. Three goals were adopted: creating a Soviet intelligentsia and management cadres; providing mass opportunities for education; and abolishing illiteracy. These goals, in turn, encompassed elements of political indoctrination, academic studies, and preparation for employment.

Major principles of Soviet education were stated in 1917 and 1918, when it was decided that the Commissar's roles were limited to policy formulation and finance.³ Schools were removed from religious auspices,⁴ and a United Labor School (stressing general education alongside labor theory and work of major economic sectors) emerged as the prototype of the desired Soviet school.⁵ In 1918, the All-Russian

Congress of Soviets adopted a policy which set the tone for post-revolutionary education: "To the end of ensuring genuine access to knowledge on behalf of toilers, the RSFSR sets itself the task of furnishing workers and the poorest peasants (without cost to them) an education complete and comprehensive."⁶ Additional pronouncements on education were published in 1918:

- . Free, compulsory, general and technical education would encompass the theory and practice of main branches of production.
- . Children would attend school between the ages of 8 and 17 in programs which would be both coeducational and secular.
- . Corporal punishment was declared illegal; compulsory homework was abolished; and examinations and grading of performance were proscribed.
- . Classes would be taught in native languages, and teachers would create a climate which would reinforce Communist ideals.
- . Self-education and educational opportunities generally would be enhanced by the State in the forms of student stipends, clothing, and food.
- . Post-secondary technical training or higher education would be available to all students regardless of citizenship or sex from the age of 16. Entrance to higher education no longer included certification of completed secondary schooling.⁸
- . Efforts to combat illiteracy would be undertaken through Narkompros and other economic and political organizations. On December 26, 1919, a special decree was issued requiring all persons between the ages of 8 and 50 to learn to read and write in Russian (or other native language). An Extraordinary Commission for the Liquidation of Illiteracy was created in July 1920 to facilitate literacy studies by adults and others not required to participate in the general education system.⁹

These principles constituted a broad, somewhat unrealistic, "wish list" for educational policymakers.

Important tasks for Narkompros were in creating a viable education infrastructure and selecting appropriate education methodologies.

There were obstacles to overcome. For example, it was necessary to decide which goals would take primary importance, to garner sufficient funding and influence to realize central coordination over education, and to set the pace at which a truly Soviet education process would be established. Through the 1920s, lack of resolution to such basic considerations seriously impeded the progress of Soviet education and the newly adopted "principles" were each eventually abandoned in moments of political and economic difficulty.

There were numerous groups claiming legitimate authority as the arbiters of the methods, contents, and structure of education, as well as over the rules governing access thereto. Three factions (roughly grouped as industry, the Komsomol, and the Communist Party leadership) variously influenced the direction not only of Narkompros policies, but of actual programs for training and education. Each of these groups was represented within the Narkompros leadership, but each also generated external pressures for influencing policy choices.¹⁰

The education commissariat was established with an advisory council, the State Education Council (Gosudarstvennyi uchenyi sovet, GUS). In 1921, the Council of People's Commissars instructed GUS to advise Narkompros on the formulation of policies.¹¹ The Council consisted of central government, trade and teacher's unions, cultural organizations, the Bureau of Labor, and educators. The Council's membership included such notables as N.K. Krupskaya, A.N. Pokrovsky, and E.E. Preobrazhensky.¹² Nonetheless, Lunacharsky is often regarded as the embodiment of objectives in Narkompros policies during the 1920s. On the contrary, he represented only one perspective (not always consistently) within the agency. His recommendations established the

general framework for early post-revolutionary education, and he was particularly influential regarding ancillary cultural policies until the 1930s.¹³

Struggles for Policy Influence

As the Soviet Union moved from the aftermath of war and revolution, Narkompros was continuously criticised for administrative disorganization and for slow progress toward eradicating illiteracy and expanding the general school system.¹⁴ To some extent, the pace of Narkompros programs reflected the stress of general economic conditions and lack of financial resources to support programs. Lunacharsky observed, for example, "that without a change in the position of education in the purely economic sense, no internal measures can in any way move us from the miserable conditions in which we find ourselves".¹⁵ However, Lunacharsky and members of the State Education Council also recognized that massive problems with Soviet education and the lack of progress stemmed from an inappropriate strategy which they had hoped would encourage "self education", rather than progression through an organized education system.¹⁶

In the period of the civil war, Lenin supported the notion that education would be spread through literacy classes to the military and factory workers. Indeed, it has been shown that these were important, albeit inefficient, mechanisms, since the level of enthusiasm for education was very strong. Connections per se between labor laws and opportunities for education were made in several ways -- largely in restrictions on child labor, general hours for work each day, and biased admissions policies in favor of workers. In another sense,

opportunities for education were negated in face of labor conscription which singled out former gentry and bourgeois classes. These requirements were abolished in the 1922 Labor Code which began the process of standardizing working conditions. Child labor protections, on the other hand, were of limited value given the economic circumstances of the early 1920s.¹⁷

Management clearly was not Lunacharsky's particular strength and from 1920 a series of special commissions reorganized various aspects of Narkompros' administration. An early review was led by E. Litkens, a member of GUS who had ties to industry. The reviewers recommended that a two-tiered management structure (technical and higher education, general education, and political/cultural activities) replace the multiplicity of Narkompros departments and committees. Upper management would consist of the Commissar and a newly created post of Assistant Commission, through whom all management decisions would pass.¹⁸

The recommendations prompted immediate controversy. Lenin, for one, agreed with the creation of the post of Assistant Commissar for Organization, but apparently wished to align Narkompros into a greater number of education/administrative units. He proposed merging technical and secondary education, a new impetus within GUS for developing curricula, and establishing separate organizational units for pre-school, primary, secondary and technical studies, extra-mural activities, higher education, and art.¹⁹

Controversy evolved around questions of administration and general rather than technical studies. In January 1921, the Central Committee ordered reorganization efforts to be continued; this time they were

led by Lenin.²⁰ At Lenin's request, the new Committee was granted authority to issue orders in the name of the Central Committee to Narkompros. Lenin used this opportunity for restating his commitment to an education program based on general and polytechnic studies. However, the Soviet economy was particularly unstable in 1921, and industry and the Komsomol pushed for technical rather than general education in the upper grades. A new policy was announced by Lenin, who indicated that the upper age for school graduates was lowered to 15 from 17, as "a temporary measure called for by the poverty and ruin of the country".²¹ Child protection laws, it is noted, limited hours of work only for children under the age of 14, a factor which probably undermined opportunities for secondary schooling.

Litkens' role as Assistant Commissar was not well defined, although apparently for a time policy decisions within Narkompros did require his approval. The arrangement eroded the authority of the Commissar for Education. Lenin, for example, did not intend the appointment to challenge Lunacharsky's role as central leader for policy (much less to neutralize GUS on which Krupskaya sat) and pushed Litkens toward administration rather than education policy determinations.²² The United Labor School program was de-emphasized as previously conceived, but the nature of polytechnic education remained undefined, and Narkompros itself was not exempted from economic pressures due to the national financial crisis.²³

The continuing attacks on Narkompros administration and on Lunacharsky's leadership were serious and only with Litken's death in 1923 was Lunacharsky's authority partially assured. By then, Pokrovsky had emerged as leader within Narkompros for political

education, and Krupskaya for pedagogical work. Simplistically viewed, Lunacharsky was concerned with establishing a viable education network, Pokrovsky with promoting political awareness through general education, and Krupskaya with demonstrating a method of education through which the Soviet state would be enhanced. Priorities which stemmed from these different policy orientations were not immediately reconcilable.^{23a}

The organizations outside Narkompros also played important roles in education. The Communist Youth League (Kommunisticheskii soiuz molodezhi, Komsomol) institutionalized a cultural/political movement for activist youth. The group, officially established in 1919, greatly influenced post-revolutionary education by promoting rapid growth of a leadership consisting primarily of workers.²⁴ The Supreme Council of the National Economy (Vysshiĭ sovet narodnogo khoziaistva, VSNKh), on the other hand, was mainly concerned with expanding the industrial base. Insofar as industry was concerned with education at the outset of the Soviet state, VSNKh promoted education complementary to a sustained flow of literate and trained labor.²⁵ Consequently, this additional split in their purposes caused the goals of Soviet education (already confused within Narkompros) to become increasingly blurred.

Despite the turmoil of the period, Lunacharsky's views were influential, even though they did not dominate. Lunacharsky proposed that the school reflect society's organization. That is, as there was planned a classless society, there would be one system of education without allowances for special privileges. The system would consist of an education ladder, divided into grades 1-4 for primary

school, grades 5-7 for junior (incomplete) secondary, and grades 8-9 for complete (upper) secondary education. Successful completion of one level assured eligibility for the next stage. Early specialization was not included; schooling would be followed by job training, employment, specialized or higher education. Lunacharsky originally suggested a tenth year at the upper secondary level, but that was not widely introduced in the 1920s.

Narkompros implemented its mandate by opening all Soviet schools and higher education programs to children of all social backgrounds, taking the long view that a different education would result in the desired orientations among Soviet cadres. During NEP (1921-1927), there were no compulsory, centrally-defined, teaching programs. There were a variety of educational practices purporting to be polytechnical in nature which formed the universe of experiments leading to an officially-approved methodology.

While Narkompros was established as the governmental agency for promoting mass education and training, practical considerations precluded the abilities of central authorities to realize their goals. For example, an early decree placed schools in the hands of local and regional authorities, while Narkompros' role was limited to policy guidance, funding, and program oversight. Since funding from central revenues was constrained by poor performance in the Soviet economy, assuring wider access to education was left to decentralized authorities (e.g., the local soviets). Thus, it may be expected that central influence over education in practice lost some of its effectiveness.²⁶

Irregular distribution of teachers and schools inherited from Tsarist days reduced the availability of schools. Thus, some groups

advocated discriminatory admissions policies, particularly at upper levels where there were few programs, anyway.²⁷ It is commonly reported that school teachers and university academics did not alter their programs substantively.²⁸ Lacking adequate replacements for such faculties, or an opportunity for extensive retraining, Narkompros was unable to change immediately the composition of the teaching corps or the content of instruction.²⁹

Under pressure from the Party leadership for regulation of the education system, in 1924 Narkompros began promoting through GUS a single method of instruction for the schools. The technique was called the "complex method"; it was a dismal failure. From a practical point of view, there were few opportunities for systematic teacher retraining and it is commonly reported that new teaching manuals were not widely available. As a result, the method which combined all subjects into themes (nature, labor, and society) was compromised from the outset.³⁰

A further reality imposed itself on the Narkompros agenda. Transition between levels of schooling and opportunities for a complete general education were restricted by differences in rural/urban education availability, purposes of existing schools, composition of the student cadres, and pressures from economic organizations for addressing their specific manpower needs. Many urban schools, financed by local soviets, limited schooling to seven years. Teachers, frequently supported by the local education authorities, used traditional instructional methods (involving subjects, homework, and strict classroom discipline). In addition, while Narkompros theoretically embraced all but the military schools, attempts to

eliminate specialized secondary and training programs were met with broad-based opposition.³¹

Principles of Soviet education developed in the early years were soon eroded. By 1923, fees were reinstated for all levels of education.³² Narkompros was ordered to incorporate technical studies into the higher secondary school, and to reduce the emphasis on academics.³³ Workers' faculties (rabochii facultet, rabfak) and the Schools for Peasant Youth, established in early post-revolutionary days as an educational alternative for working youth, formed the basis for parallel education systems. The rabfaks were supported by the Komsomol as the foundation of the future university, and offered a two-year course of general studies and technical training necessary for following the higher education program.³⁴ Schools for Peasant Youth, located in rural areas, were designed to provide agricultural training alongside general studies. Also promoted by the Komsomol the schools served as vehicles into higher technical programs -- and fostered, it was thought, proletarian consciousness among its student cadres.³⁵

During the 1920s, bands of orphaned waifs (bezprizornye) were a major public concern. The youth, numbering as many as several million, sometimes were placed in communes or orphanages, but just as frequently were ignored by the authorities. While attempts to bring these children into mainstream education were largely failures, at least one educator, A.S. Makarenko, had success with the waifs. His experiments in labor communes for youth contributed to Stalinist-era educational psychology and social ethic concerning child-rearing. Makarenko's work was not significant in its numerical implications

for expanding education, but during the post-war period much attention was given to his methods combining labor training and general studies.³⁶ His work corresponded to the prevailing ideological tenets of the period in which the ideal school was a self-governing body of teachers and students who provided their own upkeep.

With disagreement within Narkompros about the suitability of the complex method, external pressures for changing the system grew in strength. Schooling was not simply for orienting the student toward his/her role as a member of a socialist collective. Alternative techniques, seen in practice, ranged from a combination of subject teaching (supplemented by practical work at the school or industrial/agricultural setting) to child labor in its undisguised forms with little connection to academic life.³⁷ Political agitation against conservative techniques (such as subject teaching and classroom discipline seemed to represent to the Komsomol) caused some Narkompros programs to be restructured. In particular, in some schools teachers shared responsibility for routine decisions with students, parents, Party and Komsomol representatives. The changes were promoted as ways for acquainting students with principles and practices associated with self-government.³⁸

Links Between Education and the Economy

It is clear that opportunities in education were constrained in the 1920s due to the lack of education infrastructure (schools, trained teachers, equipment, materials, and funding). Given these factors, the pressures built up momentum for linking education with economic priorities. The Komsomol argued that a policy of social

selection favoring workers and peasants should be broadly implemented in admissions decisions, and that prior employment should be a criterion for higher education.³⁹ The Komsomol argued that higher secondary education should be transformed into specialized vocational training.⁴⁰ VSNKh, on the other hand, proposed that higher technical training should be under the authority of the economic commissariats.⁴¹

Suggestions by the Komsomol and VSNKh were not immediately implemented, but their continuous pressuring brought about certain deviations from early education policies. Several purges of higher education took place during these years. There were also efforts to promote political agitators, Communists, and workers into slots for students and onto faculties. Importantly, Komsomol and VSNKh objections were translated into actual school systems. The Komsomol promoted part-time study -- through rabfaks, Factory Apprenticeship Schools (fabrichno zavodskoe uchilishche, FZU)⁴² and Schools for Peasant Youth. VSNKh, for its part, encouraged enrollments in job training and secondary technical programs by providing students with financial and other incentives.⁴³ VSNKh's approaches were, of course, traditional ways for promoting connections between education and economic goals.

A common criticism of alternatives to the Narkompros general school was that academic standards were frequently inadequate.⁴⁴ Narkompros discouraged expansion of alternative programs on the grounds that socially restrictive admissions policies obviously conflicted with legal and philosophical tenets. However, while it could have been suggested that low standards would also undermine the

goal of social equality, such discussions did not stem the movement toward alternative education schemes. Indeed, by having sanctioned decentralized education authorities, Lunacharsky himself had set the stage for a period of inadequacies which were exacerbated by the revolutionary mood of the period.

Higher education was subjected to a variety of pressures. During the first part of the 1920s, universities were under Narkompros jurisdiction,⁴⁵ and reforms were few. Increased numbers of admissions of Komsomol members accompanied gradual politization of administrative and faculty appointments. Major impact on faculty and curricula was in the area of social sciences, where Party leaders desired the new ideology to be incorporated.⁴⁶ Faculties, however, remained short of Communist academics, with the influence of pre-revolutionary faculties continuing their domination through the 1920s. Importantly, most social science faculties were abolished in 1922, after repeated complaints of extreme academic insufficiency.⁴⁷ Pedagogical faculties and law programs, part of the social science umbrella, were soon re-established.

In 1925, the RSFSR Academy of Sciences was designated as the highest Soviet scientific research institution.⁴⁸ In response to the pressing demands of the movement toward a planned economy, industrial research was added to the Academy duties. This was not a traditional area for scientific research, but signalled the priority given to streamlining management practices and developing appropriate staffing patterns.

Two purges boded ill for the long-term composition of higher education faculties. These took place between 1922 and 1923 (associated

with expulsion of non-Soviet scientist, philosophers, and writers), and again following the 1928 Shakhty trials and purges of specialists (spetsy) perceived to be in opposition to the Stalinist political and economic programs.⁴⁹ The purges initiated a period of policy struggles in education which paralleled consolidation of power by Stalin. They were a serious blow to industry.

Economic goals of the first plan period (1928-1932) included expansion of transportation, modernization and expansion of industry, increased industrial and agricultural production, and collectivization of agriculture. But at the outset of the planned economy, economists believed that industrial capacity and skilled manpower resources were nearly exhausted. There was some unemployment (by 1930, this was largely unskilled labor who had migrated from rural into urban centers), but the program for industry was especially hampered by extremely high levels of labor turnover. Levels of education attained by industrial workers was extremely low, and authorities stressed the need for a new initiative to eradicate illiteracy.

The Komsomol gained in influence in this period and took on the drive against illiteracy. With the slogan, "Down with Illiteracy", one Komsomol-sponsored effort assumed the overtones of a political purge.⁵⁰ The expansion of rural education, with the emphasis on adult literacy and universal primary education, were promoted specifically in connection with collectivization. Theoretically, at least, children would attend literacy classes and technical training programs designed to support the development of Machine Tractor Stations (MTS) and other collective farm activities.⁵¹

The volatility of the period, coupled with the need to meet manpower demands for rapid industrialization, led perhaps unexpectedly to a de-emphasis on secondary education. This was paralleled by a renewed encouragement toward technical education. The Party pushed for expanded enrollments in FZU, and several kinds of job readiness programs also emerged.⁵² The latter were frequently with little relation to academic studies. Programs similar to the American industrial training methods developed by F. Winslow Taylor were among the job readiness techniques. These were important, especially when measured by the numbers who passed through the time-and-motion training.⁵

To counter some of these pressures, Narkompros returned to a conservative education program which recommended restoration of the classroom, traditional instructional techniques, and student discipline.⁵ While some of the frustrations leading to the move from experimental techniques found a sympathetic hearing among the Party leadership, momentum toward the conventional program was not sustained. The general secondary school network experienced a decline in enrollments and in physical plant by the late 1920s. There was simultaneous growth in rabfak enrollments which provided some access to higher education.

Within the framework established by the Five Year Plan, Narkompros policies still incorporated a variety of pedagogical theories. GUS and Komsomol momentum was toward programs which tied education to job skills. In response to criticism that the school programs were unrelated to "real life", Narkompros concentrated on fostering practical experiences on the parts of students. To do so, schools were associated with an enterprise or a farm. A general instructional technique, called

the project method, was adopted. The method was based on an ill-defined program of individual study and group activities, supplemented by actual labor. The nominal success of a group (or brigade, as they were later known) depended significantly on the quality of the brigade leader, who was also a student.

From 1928, Communist Party and industrial leaders complained that there was insufficient attention to the requirements for scientists and engineers. K.E. Bailes, an American historian, observed the following: "The level of education attained by industrial managers was very low, and a 1928 survey of 770 industrial managers indicated that over 70% had only elementary schooling. The percentage of managers with higher education had declined from 11% in 1926 to 9% in 1928."⁵⁵ Stalin believed that science and engineering studies should be the top priority in education.^{55a} With industrial support for this perspective, the discussions turned to whether engineers should be highly specialized or broadly educated. VSNKh's perspective was that a small number of scientists and engineers, supplemented by a greater number of technicians and semi-skilled workers, would meet the country's labor needs during the industrialization drive.⁵⁶

Early VSNKh claims that specialized higher education should be under the auspices of economic agencies gained support in the late 1920s, as the terms of the Five Year Plan were clarified. Some technical schools were transferred to VSNKh, over Lunacharsky's objections, as an "experiment".⁵⁷ That year, objections to Narkompros policies intensified in both qualitative and quantitative terms. By 1929, efforts to discredit Narkompros included personal attacks on Lunacharsky's leadership, and the economic commissariats assumed

nearly full responsibility for technical education.

Through 1928-1929, the Komsomol campaigned for restructuring the entire education system. Their recommendations included seven years of general education (with a bias toward practical experience), followed by job training. If students desired either a complete secondary or higher education, their eligibility would depend on interim employment of several years duration. The Komsomol was consistent in their opposition to the idea that education should be uninterrupted for nonacademic purposes.⁵⁸ Their arguments were made very strongly, but there was no resolution to the issue of work requirements until the mid-1930s.

Discussions over priorities in secondary and higher education involved Party leadership. Efforts to plan the numbers of slots in programs were linked to the anticipated requirements for skilled workers and managers, and the role of central economic planners was extended to education.⁵⁹ The involvement of political and economic entities outside Narkompros in matters of policy formulation were particularly important, and Narkompros faced serious challenges to its continued autonomy during the 1930s.

Conclusions

When we look at the 1920s in the context of the new Soviet state, we see a country with a strong drive toward education, but one which had not achieved popular literacy. We can easily recognize the characteristics of an underdeveloped economy and the ravages of war on the political and economic leadership. We also see efforts to superimpose an entirely new ideology and ethic onto a society which was ill-prepared for massive social and economic change.

Education was a top priority of the new government, but the period was sufficiently unstable to preclude transformation of the existing system. It is a valid question whether the new political leadership regarded education as an essential goal in its own right. The perspective that education was a support "service" to economic priorities clearly was present by the end of the decade. The links between education and the economy were not always foremost, as ideological and political actions (e.g., through purges) sometimes overrode more rational policy alternatives.

Lack of resolution to the status education would take in the new society was a major weakness of the Narkompros leadership. Issues which also ultimately eroded the agency's influence were the low level of education (if not simple literacy) within the industrial workforce and the failure to achieve a systematic program for public education. Thus, even as the decade ended there were moves in the political leadership toward changing not only the nominal leadership of the education commissariat but taking over the basic role of policy development.

Footnotes to Part II

1. Narodnoe obrazovanie v SSSR, sbornik dokumentov, 1917-1973gg, Moscow 1974, p. 7; and V.I. Lenin, Polnoe sobranie sochinenii, Moscow 1964, vol. 35, pp. 28-29.
2. For an account of pre-revolutionary Russian education see: I. Ignatiev, Russian Schools and Universities in the World War, New Haven, CT: Yale University Press, 1929. A reference for decrees issued in this period is R.P. Browder and A.F. Kerensky, The Russian Provisional Government, 1917: Documents, Stanford, CA: Stanford University Press, 1961, vol. 2.
3. Direktivy VKP(b) postanovleniya sovetskogo pravitel'stva o narodnom obrazovanie za 1917-1947gg, Moscow 1947, pp. 9-13. On June 26 1918, Narkompros issued a statement which established the educational soviet as the controlling body under the central government: ibid, pp. 21-6. Thus, the Soviet school system was de-centralized, although the RSFSR commissariat attempted leading the direction of policy debates.
4. Sobranie uzakonenii i rasporyazhenii rabocheho i krest'yanskogo pravitel'stva, RSFSR, Moscow 1918, no. 15, art. 263. Equipment and buildings belonging to religious and other organizations were consolidated into the Narkompros network according to decrees issued in May and June 1918: Dekrety sovet'skoy vlasti, Moscow 1959, vol. 2, pp. 357-359 and pp. 487-488.
5. S. Fitzpatrick, The Commissariat of Enlightenment, London: Cambridge University Press, 1970, chapter 3 offers a discussion of the United Labor School.
6. Sobranie uzakonenii, 1918, no. 51, art. 582.
7. Izvestiya, 16 October 1918, pp. 5-6. The documents contained in the article are discussed in Fitzpatrick, 1970, op cit, pp. 28-34. See also Resolutions and Decisions of the CSPU, 1917-1929, Moscow 1974, vol. 2, pp. 64-65.
8. According to Fitzpatrick, ibid, pp. 77-79, it was envisaged that higher education institutions would ensure that entering students had either secondary educations or that the institutions would provide special preparatory courses prior to their admissions. The degree is found in Dekrety sovet'skoy vlasti, op cit, vol. 3, p. 141.
9. Sobranie uzakonenii, 1919, no. 67, art. 592 and ibid, 1920, no. 69, art. 312. Lenin considered the creation of the Extraordinary Commission a national disgrace. "God grant that we manage to stick to the old policy if we have to resort to extraordinary measures to liquidate illiteracy." Selected Works, Moscow 1937, vol. 9, p. 270.

10. The main lobbyist for industry was the Supreme Council on the National Economy, established 15 December 1917 to coordinate all aspects of Soviet economic life: Sobranie uzakonenii, 1917, no. 5, art. 83. From 1920, the Council's authority was limited to planning for and administration of industry: A.Y. Vyshinsky, The Law of the Soviet State, New York: The MacMillan Co., 1961, pp. 394-395. The Komsomol was officially created at the 8th Party Congress (March 18-23, 1919) to encapsulate activist youth. Prior to that date, Komsomol activities were independent of the VKP(b) direction. A discussion of the period is found in R.T. Fisher, Pattern for Soviet Youth, New York: Columbia University Press, 1959.
11. Lenin, Collected Works, Moscow 1970, vol. 45, p. 57. See also N. Konstantinov and E. Medynsky, Ocherki po istorii sovetskoi shkoly RSFSR za 30 let, Moscow 1948, p. 121.
12. F. Korolev, Ocherki po istorii sovetskoi shkoly i pedagogiki, 1917-1920, Moscow 1958, chapter 1, pp. 85-104.
13. S. Russell, The Philosophy of A.V. Lunacharsky, Commissar for Education, 1917-1929, Ph. D dissertation, Indiana University, 1970.
14. "The main failing of the People's Commissariat for Education is its lack of practical efficiency, inadequate attention to the recording and verification of practical experience, lack of systematic application of its lessons, and prevalence of general arguments and abstract slogans ... The enlistment of specialists, i.e., of teachers with theoretical and practical experience... is improperly organized... Curricula for the main types of educational establishments and for courses.. must be drawn up." Lenin, Collected Works, Moscow 1965, vol. 32, pp. 120-121.
15. Fitzpatrick, 1970, op cit, p. 168. Two views of the economic situation in the period are M. Dobb, Soviet Economic Development Since 1917, London: G. Routledge and Sons, 1960, and M. Baykov, The Development of the Soviet Economic System, New York: The MacMillan Co., 1947.
16. Fitzpatrick, 1970, ibid, pp. 57-58.
17. Sobranie uzakonenii, 1917-18, no. 73, art. 793 (mandatory work from age 16); ibid, no. 1, art. 6 (8 hour work-day); and ibid, 1919, no. 1, art. 7 (limits on child labor).
18. A reorganization was ordered 20 December 1918: Lenin, Polnoe sobranie sochinenii, Moscow 1965, vol. 37, pp. 87 and 463. Litkens' appointment was announced 2 February 1921. See also Lenin, Collected Works, Moscow 1969, vol. 42, pp. 237-238.
19. Lenin, Collected Works, 1970, vol. 45, pp. 57-58.
20. Ibid, 1969, vol. 42, pp. 551-552, ff. 276 and 277.
21. Lenin, Selected Works, Moscow 1937, vol. 9, pp. 491-492.

22. Lenin, Polnoe sobranie sochinenii, 1965, vol. 52, p. 112; and Lenin, Collected Works, 1969, vol. 42, pp. 237-238.
23. Fitzpatrick, 1970, op cit, pp. 206-207 and 284-285. By 1923, staff reductions were generated by budget cuts, lack of food and other priorities. Narkompros staffing fell to 420,000 from 630,000 as officially estimated, but Fitzpatrick also estimated that there were further reductions in the midst of the economic difficulties.
- 23a Lenin, Collected Works, 1965, vol. 32, p. 125.
24. Fisher, op cit, chapter 1, discusses the formation of the Komsomol.
25. S. Fitzpatrick, Education and Social Mobility in the USSR, 1921-1934, London: Cambridge University Press, 1979 presents the role of the Economic Council as a theme in the discussion of Soviet education. In 1920, the Council's authority was limited to economic matters, rather than planning the whole economy. In 1924, the Council's status became national rather than republic-level, as was the case for Narkompros. Thus, it may be argued that the status of the Council enhanced its ability to influence the direction of education policy.
26. Lunacharsky wrote in 1929, "... Conceived in the first throes of idealism after the revolution, from its beginning to its end, the United Labor School was little suited to the practical situation in Russia. The fact of the revolution ... seemed to indicate all was possible. The new schools were given full autonomy, with curricula and methods to be determined by each school district. The state retained only a general control that in no way inhibited local initiative." Quoted in S. Russell, op cit, p. 54. Despite such statements, the charter of the United Labor School was approved in 1923 (Direktivy VKP(b), op cit, pp. 128-134).
27. These factors produced numerous changes -- for example, the rabfak were created in 1919 and grew in importance from 1921 (Narodnoe obrazovanie, 1917-1973, Moscow 1974, p. 404). Lenin's attitude toward the situation is clear: "Problems, of course, are inadequately prepared students and teachers. Nearly five years after the proletariat captured political power... the old bourgeois scientists teach young people... the same... trash." Collected Works, 1965, vol. 33, pp. 217-218.
28. I.N. Shumilin, Soviet Higher Education, Munich: Institute for the Study of the USSR, series I, no. 67, July 1962, p. 24.
29. Attempts to insert Communists into higher education began with the reorganization of Moscow State University's charter. Sobranie uzakonenii, 1920, no. 82, art. 395 and 396. Law faculties were abolished and were replaced by faculties of public sciences in 1919: S. Kucharov, Organs of Soviet Administration of Justice, Their History and Operation, Leiden: E.J. Brill, 1970, p. 265. Lenin, Collected Works, 1965, vol. 32, pp. 120-132, took a moderate approach and cajoled education authorities to seek out old teachers in efforts to ease teacher shortages and to bring into the process individuals with knowledge of pedagogical practice.

30. Z. Ravkin, Sovetskaya shkola v period vosstanovleniya narodnogo khozyaistva, 1921-1925gg, Moscow 1959, p. 71 et seq. F. Korolev, Istoriya pedagogiki, Moscow 1974, chapter 30 criticized the complex method as paradoxical in nature. See also F. Korolev, Ocherkii po istorii sovetskoi shkoly i pedagogiki, 1921-1931gg, Moscow 1961, pp. 446 et seq. in which the complex method and the circumstances of its application are discussed.
31. Pressures in favor of vocational training began early in the new regime. In June 1919, a Committee for Vocational-Technical Education was established within the education commissariat to integrate technical schools into the general education system. The matter is discussed in Fitzpatrick, 1970, op cit, pp. 61-64. By 1920, Lunacharsky conceded to the Supreme Council of the National economy's demands to allow specializations in senior secondary programs. That same year, Trotsky announced that the education commissariat would assist other authorities to establish additional professional training schools.
32. Sobranie zakoneni, 1923, no. 24, art. 279.
33. Lenin, Selected Works, 1937; vol. 9, pp. 491-492.
34. Schools for Peasant Youth were established in late 1923 over the objections of both Lenin and Lunacharsky, who opposed creating a "caste" division in opportunities for education. Fitzpatrick, 1970, op cit, pp. 60-61.
35. Fisher, op cit, pp. 91-94 and 333; and S. Harper, Civic Training in Soviet Union, New York: Columbia University Press, 1929, p. 245.
36. In his dissertation, S.M. Lehrman wrote, "In 1920, in the face of economic disaster, seven million children were waifs. The characteristic of these children in the general literature of the time is that of children with no schooling, no families, no concepts of generally acceptable social norms, who have not been exposed to satisfactory models of behavior in eating, cleanliness, or relating. They were wild in the literal sense of the word, deprived by war and upheaval of acculturation which normally takes place in childhood." S.M. Lehrman, The Pedagogical Ideas of A.S. Makarenko, Ph.D. dissertation, University of Illinois, 1960. pp. 1-3.
37. A.P. Pinkevitch, The New Education in the Soviet Republic, New York: John Day Co., 1929, pp. 161-164 discussed the various definitions of labor that were officially considered in relation to the new labor school.

38. Korolev, 1961, op cit, pp. 68-69, and A.P. Pinkevitch, The New Education in the Soviet Republic, New York: John Day Co., 1929, pp. 213-216. Pinkevitch wrote that the purpose of self-government the the labor school soviet was regarded as indispensable. Students thought of themselves as co-workers of equal rights with the teachers, who as the object and the coordinators of education ideas developed by the school soviet, possess special knowledge.
39. Fisher, op cit, p. 71, indicated that the Third Komsomol Congress resolved to requisition buildings and teachers to set up schools for working youth, to find suitable sites, conscript labor to repair schools, assist with teacher selection, and publicize the schools among youth. The resolution was based on Lenin's speech to the Komsomol Congress: Collected Works, 1966, vol. 31, pp. 296-297.
40. Fitzpatrick, 1970, op cit., p. 47. Rabfak admissions required proof of working or peasant class origins, age 18, three years of working experience, and a recommendation by a factory committee or Party organization. Such requirements, according to Shumilin, op cit, p. 22, guaranteed an increased influence of Komsomol priorities in the schools.
41. After considerable pressure from the Supreme Council on the National Economy for planning labor mobilization, a special commission was established 27 December 1919. Part of the commission's duties were formulating measures for ensuring availability of qualified workers: Pravda, no. 2, 4 January 1921, p. 1. The commission's existence, according to Fitzpatrick 1970, op cit, pp. 59-68, pressured the education commissariat to address technical training at the professional levels.
42. In 1926, the education commissariat established in industrial areas a system of seven-year factory training workshops (fabrichno zavodskaya semiletka, FZS) to prepare youth for employment. In addition, there were factory apprenticeship schools (fabrichno zavodskoe uchilishche, FZU), specialized and higher secondary school programs which offered some readiness skills. The FZU program was controversial and the combination of the FZU and the FZS presented a threat to the viability of the general secondary program. In March 1926, a decree required the FZU to delete general education studies: I. Kairov, Narodnoe obrazovanie v SSSR, Moscow 1957, p. 356. The order was later reversed. See M. Seineko, 40 let narodnogo obrazovaniya v SSSR, Moscow 1957, p. 31.
43. Fitzpatrick, 1979, op cit, p. 106. Direktivy VKP(b), op cit, pp. 137-140. Note that complaints of poor standard were also directed to the general education programs.
44. Fitzpatrick, ibid, p. 106, stated that from 1926, academic criteria were supposed to have equal weight in admissions decisions to higher education to considerations of socio-political factors.
45. Sobranie uzakonenii, 1921, no. 65, art. 486, and ibid, 1922, no. 43, art. 518.

46. Ibid, 1921, no. 19, art. 119, contained Lenin's list of recommended subjects. Ibid, 1922, no. 75, art. 929, contains the Supreme Council on the National Economy's alternative list of compulsory subjects: historical materialism, capitalism, proletarian revolution, political structure, and tasks of the RSFSR.
47. Fitzpatrick, 1970, op cit, p. 78.
48. A. Korol, Soviet Education for Science and Technology, New York: John Wiley and Sons, 1957, p. 369. G. Knyazev and A. Kol'tsov, Kratkii ocherk istorii akademii nauk SSSR, Moscow 1964, p. 88.
49. Fitzpatrick, 1979, op cit, p. 122, described the effects of the 1928 purges on Soviet education and indicated that all levels of education and especially higher education were effected. A Pravda article, (no. 29, 5 February 1929, p. 1) openly encouraged reviews of class corruption in education, adding semi-official support to purges in the system. See also an article on the implications of the Shakhty trials for Soviet industrial management: H. Kuromya, Soviet Studies, vol. 36, April 1984, pp. 187-189, who claimed that the conclusion of the Stalin faction from the Shakhty affair was the need to enhance the technical expertise of communists and to create a proletarian intelligentsia. To Kuromya, this would resolve the dichotomy between red and expert.
50. Fitzpatrick, 1979, op cit, pp. 161-162. See also Fitzpatrick, Cultural Revolution in Russia, 1928-1931, Bloomington, ID: Indiana University Press, 1978, pp. 91-92.
51. Summary of the Fulfillment of the First Five Year Plan for the Development of the National Economy of the USSR, Moscow, 1933.
52. Fitzpatrick, 1979, op cit, pp. 150-151.
53. The programs were developed by the Central Institute of Labor and by individual factories. By 1930, 128,000 workers had passed through the time and motion training. Fitzpatrick, 1979, ibid, p. 200. A recent article on the issue is by S.H. Seifelbaum, Soviet Studies, vol. 36, no. 1, January 1984, pp. 45-68.
54. Compulsory teaching programs were issued for primary and secondary schools in 1927. The programs included formal classroom structure and the subject method of instruction. Before they were widely introduced, a new surge of experimentation took hold. Narodnoe prosveshchenie, 1926, no. 11, p. 5.
55. K.E. Bailes, Technology and Society under Lenin and Stalin, Princeton, NJ: Princeton University Press, 1978, pp. 159-187.

- 55a Stalin, Works, 1954, vol. 11, pp. 79-82.
56. A RSFSR decree of 22 February 1927 stated that the preparation of skilled workers was a main task of education (Narodnoe obrazovanie, 1917-1973gg, op cit, p. 516). The needs of professional education "should be brought in line with the pressing and vital needs of the economy" (Shumilin, op cit, p. 25). Provision for regular training of graduates was also made in 1927 (*ibid*, pp. 64-65). A July 1928 decree required specialist training to be the economic priority. Professional-technical staffs would increase by two times over the first plan period. Higher technical school programs were reduced in duration (Narodnoe obrazovanie, 1917-1973gg, ibid, pp. 415-418).
57. Stalin, Works, 1954, vol. 11, pp. 224-226. The transfer of the technical programs took place in 1928 involved the commissariats for transportation, the Supreme Council on the National Economy, and Narkompros. The full transfer took place after 1929.
58. Fisher, op cit.
59. M. Dewar, Labor Policy in the USSR, 1917-1928, London: Royal Institute of International Affairs, 1956, pp. 272-273.

Part III

Soviet Education Under Stalin

Introduction

If the 1920s may be pictured as a tumultuous period in which all manner of approaches to education were considered, its legacies to policymakers in the 1930s were lack of resolution of any major policy concerns. The 1930s initiated a movement toward rationalization of education. Change from diversity to common practices in education was an important undertaking. The period embraced the notion that a single objective view of social conditions and industrial manpower needs (issues which separately preoccupied politicians and education-alists) could be superimposed on education.

Common education practice may be regarded in several ways. First, it may constitute an attempted reduction of pressure points on a leadership engrossed with a full spectrum of governmental and economic concerns. Adoption of a "commonality principle" would neutralize momentum toward experimentation and would focus policy discussions on the breadth of the system. Secondly, it may be said that while commonality was achieved partly through suppressing opposing groups, it was also partly the result of evolving concepts based on the successes and failures of post-revolutionary experiments in responding to industrial manpower needs.

Inasmuch as the Soviet education system was entrenched as an important mechanism for social mobility, and since education theory and practice were clearly linked to economic and ideological priorities, education policy changes in the 1930s indicate shifting political and economic priorities. For example, widened access to education was

heralded as broadening the base of participatory democracy. And, indeed, it did as the working class expanded and increased numbers outside the bourgeois class entered policymaking and management positions. Generally, however, opportunities for education were implemented by means of dead-end programs so that the labor needs of enterprises would be met. In such instances, social and economic mobility were less dependent on education than on individual performance, or on political and ideological factors. Nonetheless, obvious connections may be seen between education and industrial goals.

Thus, education, which was a major issue on the revolutionary agenda, was not a primary objective of the Stalinist government as such. It was a way in which social and economic transformations might be enhanced. As this purpose of mass education became firmly fixed, the methods and structure of the education process were tied to the economy. From an early concept of general ten-year education, during which the student was exposed to labor concepts, parallel education and labor training systems evolved. The inadequacies of these systems in meeting the needs of industrial development for skilled and "flexible" workers pushed Soviet leaders in the 1930s toward radically restructuring education. Given these broad considerations, a look -- however brief -- at the education system in the 1930s facilitates an understanding of post-war education.

The chapter continues the discussion of Soviet education and points to problems which remained outstanding at the end of the pre-war period. The presentation focusses mainly on legal changes, as the structure and philosophy of education which emerged in the 1930s are most easily illustrated in this manner.

Motivations for Education Reform

While bits and pieces of the education system were developed during the first ten years of Soviet power, it may be argued, in retrospect, that political survival and economic viability -- not education -- were the first priorities of government. By the late 1920s, however, the condition of the Soviet economy had improved and centralized economic planning emphasized specialist training and education. However, lack of attention to social infrastructure left economic planners with the fear that requirements for a larger labor force, with improved skills, could not be met.

Beginning with the Five Year Plan, Central Committee interest in education policies grew, prompted by the poor quality of new graduates and the failures by secondary programs to equip students for employment. Criticisms by the Party leadership were specific. They targeted:

- . poor quality of instruction, particularly in science;
- . poorly trained teachers and questionable methods;
- . inadequate school networks (reportedly encompassing only 20% of student-age population); and
- . poor student discipline.¹

In response to the situation, the Five Year Plan called for universal primary education, connection between schools and practical work, and stepped-up efforts for adult literacy. There were also great pressures for providing training to migrants who sought pre-employment training. Compulsory seven-year education was mandatory in industrial areas.² While the plan established the development goals of various economic sectors, it remained for the legal and practical

frameworks for these programs to be worked out.

Lunacharsky was replaced in the fall of 1929 by A. Bubnov.³ Bubnov has been described as having a predilection for administrative discipline gained during his tenure as political organizer for the military. He has also been described as an ardent supporter of polytechnic education, although his allegiance to a given definition seems to have fluctuated with pressures brought to bear at the time.⁴ Bubnov's major responsibility was shepharding through the implementation of universal primary and junior secondary education, while providing administrative supports for expansion at other levels of education.

Bubnov's reputation is belied by his failures in coping with entrenched forces promoting policies in education which clearly were not reconciled with rapid economic expansion. Three factors precluded the implementation of consistent policies: lack of control over GUS policymakers; the heightened role played by VSNKh after 1928;^{4a} and lack of influence over the Komsomol. Further, a "wild card" in the situation was the way in which Stalin meant to implement the five year economic program and those implications for education and social policies.

Between 1930 and 1935, the mood toward continuous expansion of higher education and recruitment of workers onto faculties reversed. Industry began to resist erosion of their professional cadres and skilled labor for purposes of general education. Resistance to education was seen from 1927 when the general secondary school was abolished in favor of technical training. The resistance was generated by pressures which arose from the program for economic development and a concept of management accountability.⁵ Another reason was that

unemployment was eliminated as a legal concept/status in 1930 as an encouragement of unemployed persons into the factories.^{5a} Since goals were established in the first plan which carried weight of law for industrial production and expansion, transfers of the more skilled workers into education lessened the potential for compliance with the economic program.⁶

To a certain extent, industrial resistance for expanding education at the secondary level (by drawing students from the workforce), coupled with perceptions of impending manpower shortages, forced changes in laws governing the labor force. Efforts were undertaken, for example, for identifying and classifying employment categories and related academic/technical qualifications.⁷ It was not possible to fill all posts with specifically qualified personnel, but regulations adopted in the 1930s created formal links among opportunities for education, labor supplies, and future hiring practices.

Concurrent with more restrictive controls over labor mobility and working conditions, the Party began purging militants from influence over school policies,⁸ and undertook a series of resolutions and directives restoring academic standards and central controls over the education system. These legal controls were enacted at a rapid-fire pace, although widespread implementation was not accomplished for several years. The following sections discuss reforms in education between 1930 and 1939. Despite the political and economic considerations motivating some of the actions, a checkerboard of infrastructure emerged in this period which has lasted in many respects until the present.

Questions confronting policymakers at the beginning of the post-revolutionary period pertained ten years later. What should be the structure of Soviet education? Who should establish the priorities and policies? What should be the primary purpose of schooling? Who should have access to education, particularly at upper levels of the system where few could be immediately accommodated?

Standardization of the Education Mandate

In 1930, against a background of massive internal migration and in the midst of collectivization, the 19th meeting of the Communist Party produced a resolution which made primary education compulsory for all children between eight and ten years of age. With the base of three years of schooling established, a fourth year of compulsory education was the national target for 1931. Further, the Central Committee decreed that there would be compulsory education to the seventh grade for all children (8-15 years of age) in specific workers' settlements and in industrial areas. Literacy classes for youth between the ages of 11 and 15 years who had not attended classes for the requisite number of years ~~were~~ also mandatory.⁹

In higher education, the diverging policy choices of Stalinist forces and more conservative elements can be seen. The motivation was in streamlining education for meeting critical demands for technical personnel. Plans for supplying the national economy with specialists were developed by mid-1930. The recommendation was based on a formula which calculated from "typical staffing" for certain industrial sectors and extrapolated to the whole economy.¹⁰ The program called for nearly

300,000 university graduates and over 800,000 higher technical school graduates by the end of the 1932/33 academic year.¹¹ Approximately 50% of such cadres were produced.¹² Institutes were separated from the universities and assigned to economic commissariats, and some programs were reduced in scope and duration.

The issue was not simply graduating enough specialists, but in assuring the quality of those completing the programs. Stalin's views were made clear in 1931:

We don't need just any kind of commanding and engineering-technical personnel. We need construction-engineering-technical personnel capable of understanding the policies of the working class ... and capable of mastering those policies, and prepared to carry them out... It means our country has entered the phase of development when the working class must create its own productive-technical intelligentsia.¹³

In this way, Stalin encouraged not only promotion policies which favored working class origins, but also seemed to say that programs offering training at lower standards than preferred must be tolerated for a period. This approach to education had uneven results. One observer of the period remarked:

The USSR's scientists are generally young and without experience. They lack a profound scientific knowledge acquired with years. We have professors 30 years of age who previously worked in mines, factories, and in fields. These were promoted to such status. Their major characteristic is energy and dedication.¹⁴

Reorganization of higher levels of education were intended to bring education into closer contact with industrial labor needs. In practice, the organizational arrangements meant that substantial costs of education became industrial responsibilities and that policymaking concerning curricula was decentralized. The result was in exacerbating problems with academic standards, as industry was

possibly equipped for managing production, but not also education. Depending on the perspective (preferences for uniform, national standards and practices or for experimentation and decentralization), it is clear that strength temporarily was held by those who would decentralize policy formulation and practice.

By 1931, the Central Committee published directives concerned with courses in the primary and secondary schools, reintroduced academic subjects which had been eliminated by the complex method as the basis for courses, and discredited experimental schools generally. The orders signalled the end of the project method and the demise of theories as the one which argued that schools and governmental institutions would soon be redundant in the wake of establishing socialism.¹⁵

Following a Central Committee moratorium on the promotion of skilled workers into administrative work, the use of worker's regular employment hours for education was also forbidden. Indeed, such was the stringency of these regulations that many workers returned from management and school assignments to the shop floor.¹⁶ The matter of equal access in qualitative terms was not addressed.

A directive issued in 1932 established a scheduled study program for all levels of education.¹⁷ Another formally re-established the higher secondary school (including the tenth year of study),¹⁸ thus reducing the need for factory training courses and rabfak to offer general education. Several problems remained which concerned quality of academic programs and teaching cadres, and employment readiness of graduates. Counterpressures to growing investments in education continued as tightened labor markets and an economic

slump from the reaction to collectivization took hold. Some actions taken by the Central Committee in regard to education appear to have been compromises with economic problems in the balance.

The Central Committee established a Committee on Higher Technical Schools (under the auspices of the CPSU Central Executive Committee),¹⁹ declaring that the Committee would provide central direction over university-level faculties. Continuing the 1930-1931 drives to lower the attrition rates of skilled labor (from employment into education), the Central Committee explicitly objected to the age-gap between secondary and higher education student cadres.²⁰ The statement has been interpreted as a reiteration of the principle of the continuous education ladder which had been discarded in the late 1920s. Improvements in standards of student qualifications for higher education were seen. Special status for university admissions (e.g., tied to political or proletarian status) were controversial over the years and now were discontinued. Extrance examinations were substituted.²¹ Importantly, appointments of unqualified workers or Communists ^(without specific qualifications) to faculties were disapproved as common practice. Academic criteria (including specific degrees for various types of appointments) were established for faculty hiring.²²

Improvements in the qualitative aspects of Soviet education from 1933 focussed more on content than on structure. Textbooks, the lack of which was a sore topic of long standing, became a point for official interest. A reportedly Stalin-initiated decree prompted use of revised curricula and texts for classroom instruction.²³ The more sensitive aspects of these changes concerned the integration of labor training into general education and the abilities of teachers

for initiating sufficient practical work into the schools. Here the creation of the Higher Communist Institute on Education offered the possibility for pedagogical research into methods of teacher training in polytechnic techniques.²⁴ Criticisms about the contents of school books continued and there were efforts undertaken for revision of books away from "negative" presentations of Soviet history and rote memorization. While begun in this period, a number of years passed before the changes were implemented.²⁵

With the push for implementation of seven-year education in both urban and rural areas, the education system absorbed an extraordinary expansion while attempting to provide the majority of children with sufficient readiness skills for immediate employment or short-term job training on leaving school. In its relation to training of semi-skilled workers, the FZU was restructured into purely technical studies, and curricula for the FZU were downgraded (e.g., general education courses were simply excluded).²⁶ This caused a substantial drop in FZU enrollments, as the turn from academic study decreased the possibility for further education. In this way, separation of education from industrial training and strengthened reliance on general education for basic literacy were reinforced. However, another decree allowed workers attempting FZU and technical programs to study without working during their final year of training, and provisions were made for providing some with financial assistance.²⁷ It appears that this decree sought to establish a balance among pressures toward employment, job training, and general education.

In 1933, higher education curricula emphasized the need for an improvement in scientific and technical training.²⁸ The attempt to

bring students closer to industrial manpower needs was reflected in a heavy concentration of "practical work" within the courses, as well as a mandatory period of employment prior to the thesis stage.²⁹

Further, an offset to benefits granted to students in higher education was the requirement for graduates of such institutions to accept job assignments for periods up to five years.³⁰

From 1934, efforts were continued for strengthening the secondary and higher education programs. In higher education, restrictive admissions policies (e.g., qualifications by achievement testing) were employed to upgrade student cadres.³¹ At the insistence of industry, academic degrees were reinstated, universities added post-graduate courses, and academic criteria for faculty appointments were implemented.³² Many of the part-time higher education programs were eliminated on the grounds that they were of insufficient standard or were redundant.³³

Two decrees pertained to coursework and structure of secondary education. The first formally re-established the ten-year school and instituted polytechnic studies from the fifth year.³⁴ The second formally criticised previous courses in civics, history, and geography, and required schools to use standard texts which would acquaint students with principles from the Revolution.³⁵ With these actions, the key questions concerned the accessibility to general education (as opposed to job training or technical schools) beyond the early years. But accessibility was complicated by the matter of the relevance of general education to employment. The second five year plan, for example, put special emphasis on expanding secondary technical schooling and related teacher training programs.³⁶

During this period, a formal national system of examinations, grading for performance, and awards for excellence was instituted,³⁷ and some awards exempted students from competitive examinations. Efforts for creating order from irregularity were seen; teachers were evaluated, for instance, on the basis of student performance.³⁸ Not only was the teacher's tenure at risk, but remuneration for services hinged on the numbers of students who successfully completed a given year of schooling. Unfortunately, while this was an effort for extracting more stringent performances from both teachers and students, it is likely that lack of effective oversight allowed subjective evaluations of student performances to continue.

Reforms did not stop with purely educational issues. Objections were made over the use of student time for socio-political purposes, and limits were placed on extra-curricula activities.³⁹ An early version of a code for student behavior was developed in reiteration of official preferences for youth discipline.⁴⁰ It also signalled that the Komsomol would turn away from independent political agitation to activities complementary to CPSU priorities.

In 1935, the pace of reforms did not ease, although the focus was on improved specialist training. Early activities in this direction would be seen from 1932; but in 1935, a reduction in the numbers of specializations resolved some of the negative effects of the transfer of university training to industrial auspices. From nearly 1,000 specializations, there were left only 175 broad programs with modified teaching programs and curricula. Significantly, education authorities within the Party apparatus were the forces behind these changes.⁴¹

Most of the revisions from 1930 were subsequently incorporated into the 1936 Constitution. The new Soviet Constitution changed a fundamental view of education -- moving from a paternalist view of State responsibility toward a recognition of the rights and duties of individuals for an education.

The right to education is ensured by universal and compulsory elementary education, by free education up to and including the seventh year, by a system of State stipends for students of higher education... who excel in their studies, by instruction in the schools... conducted in native languages, and by the organization... (in the workplace) ... of free, vocational, technical and agronomic training for the working people.⁴²

Thus, early moves by Lunacharsky toward establishing a continuous education process supplemented by job training, apprenticeships, and technical or higher education found its basis in law and increasingly in fact.

Narkompros jurisdiction was again challenged in 1936. This time, the Committee on Higher Technical Schools (under Narkompros auspices) was replaced by an All-Union Committee for Higher Educational Affairs, under the auspices of the USSR Council of People's Commissars.⁴³ The new Committee governed policies concerning all higher education, regardless where the programs were actually housed.

Despite the successes of the 1930s in stabilizing education, problems were not resolved. Rapid industrialization created a growing demand for professionals, while the purges of the mid-1930s depleted management cadres. Conformity with employment criteria established in law was not realized. Rural education and education for non-Russian nationalities was uneven. Political and ideological content of instruction created additional instability, and the quality

of instruction still remained inadequate -- pointing to problems with recruiting, training, and sustaining employment among the teacher corps.⁴⁴

To a certain extent, the 1936 decree on pedagogical perversions, which was followed by purges of leading educationalists, sounded a deathknell for experimental education having implications lasting into the 1950s. Confirmation of the Party's essential role in establishing the values to be imparted through the education process was the key point. It assured the Party of a legal basis from which to take punitive action against educators believed to be wreckers of Stalinist approaches to organizing education and it addressed the form of and discipline within the profession.⁴⁵

Attention to the quality and size of the teaching profession grew from the mid-1950s. Major factors which had reduced the attractions of the field were low levels of remuneration (except in universities), political/ideological pressures, and potentials for personal harm resulting from activities of some militant youth.⁴⁶ A survey showed, for instance, that over 50% of primary teachers did not have secondary pedagogical training, and that 75% of secondary teachers were without higher education.⁴⁷ This situation was common in all professions. By 1940, of the 904,000 mid-level and senior specialist jobs created between 1928 and 1940, 70% were held by praktiki (e.g., individuals promoted on the basis of experience rather than academic qualifications).⁴⁸

During the 1927 reforms, teachers had been granted salary increases and had been promised regular salary reviews. Later in the process of formulating the five year plan, teachers were designated

a top priority for increments and for food distributions. Real wage increases did not occur, however, even though the nominal rates for wages went up, as the general cost-of-living increased more than wage increments. In 1936, another decree sought to raise the salaries of teachers "to the levels of engineers".⁴⁹ Teachers were then confronted with the first systematic definitions of job qualifications and were required to achieve the standards within a specific period of time.⁵⁰

By 1937, the Soviet Union was confronted with a changing world -- one which promised prosperity but in which the threat of war loomed near. One observer of the period remarked:

All legislative and organizational measures during the three years preceding the Hitlerite attack were dictated by the need to make the USSR ready for war. In this they found their real justification. The phraseology sometimes applied in order to confuse them with long-term communist aims, however, (has) its own implications which fitted the concepts of one-sided managerial interest.⁵¹

Insofar as education was concerned, efforts to strengthen polytechnic and labor training were significantly tied to war production during the late 1930s. Wider opportunities for women, frequently heralded as a major advance, occurred as males were subjected to military conscription.

Education mandates in the third five year plan seemed clear. It stressed two items: continued expansion of all education (with emphasis on secondary schooling) and qualitative improvements. It seemed that Stalin recognized the need for generalists, but he also sanctioned intensified efforts concerning the technical competence of management cadres.⁵² These were polar-opposite investment priorities, given the dual systems of general and technical education.

Moreover, since the general secondary schools had not successfully integrated labor training into the academic settings, it was eliminated from the general school program altogether. This left unresolved the matter of labor-oriented general education.⁵³

By 1938, the critical needs for industry was securing a labor force with an appropriate distribution of junior and secondary-level educations combined with technical training. But general education and organized recruitment of labor had reduced the incentives for youth to attend the FZU and factory training programs, which were regarded as essential inputs to improvements in labor productivity. For example, between 1938 and 1940, factory and on-site job training programs were completed by fewer than one-third of the planned 1.7 million.⁵⁴ An observer remarked that of 600,000 Party members, 15% were specialists with higher or secondary education and that many persons in management or similar positions of responsibility did not have such education.⁵⁵ Such a low standard of education within the Party and management cadres must have generated enormous pressures for expanded education at these levels. The increased pace of pre-war mobilization worked against this option.

As a temporary solution to labor shortages, restrictions were enacted on labor mobility. Increased working days and reduced leave privileges were seen alongside efforts to reduce the numbers of officials and managers who were purged for political reasons.⁵⁶ To encourage students toward employment, correspondence centers for higher education were created. The law provided for two types of programs: independent correspondence centers and part-time evening programs attached to full-time institutions.⁵⁷ These programs were

seen alongside efforts to reduce the numbers of officials and managers who were purged for political reasons.⁵⁶ To encourage students toward employment, correspondence centers for higher education were created. The law provided for two types of programs: independent correspondence centers and part-time evening programs attached to full-time institutions.⁵⁷ These programs were especially important to teachers with obligations to upgrade their credentials. Still, a labor draft was discussed for the first time in the period since the early post-revolutionary period.

It seems clear that from 1939 the USSR would enter the war and that existing manpower problems were complicated by the urgency felt by government to produce military goods and to expand the size of the armed forces. Labor laws and military conscription regulations, for example, became increasingly severe as they pertained to age-eligible candidates for education programs. In particular, students were liable for draft into military service at age 18 (or 19, if deferred). This pushed the age forward approximately one year and reduced the pool of male applicants to education programs.⁵⁸

Reforms in education came to a halt in this year, although the activities to expand secondary education, in particular, were increasingly successful. Some efforts to establish the appropriate direction of technical programs and labor training were continued. A Soviet writer indicated,

By the end of the 1930s, the impossibility of maintaining a unified national approach to the organization and content of vocational/technical education, as well as the long-term planning for the training of skilled workers, became apparent.

Factories subordinated... training to current production needs. The FZU courses were cut drastically, workers were

trained mainly in mass occupations, and new fields of work. Enterprises which did not operate schools were virtually denied any influx of skilled manpower.

Internally organized factory forms of training such as advanced training schools for skilled workers, Stakhanovite schools, socialist worker courses, and technical-minimum classes also failed to meet the requirements of developing socialist industry.

Resolution of... these tasks required better forms of worker training with a solid, planned basis which took into account national interests, the growing need for workers in various sectors of the economy, and the longer-term prospects for their development. A state system of training and placement of skilled workers became an objective problem and certainly a pressing one.⁵⁹

This situation led to the creation of the State Labor Reserve, which is treated in the following chapters.

Finally, Bubnov was replaced in 1940 by V. Potemkin, a former diplomat and a historian.⁶⁰ The replacement of Bubnov was not particularly significant given that the important decisions in education were not based on Bubnov's leadership, but reflected momentum from Party leadership and organizations. The significance in the choice of Potemkin for Commissar of Education in the Russian Republic may be in his own credentials as a recognized academic. It is possible that his assignment signalled the continued stress on qualitative (as opposed to political) changes in education. These factors, too, were negated in the face of war.

Conclusions

It was from the 1930s that the Soviet Union systematically sought universal literacy for the adult population and the standard of elementary schooling for children. These were reasonable goals, as audiences for literacy classes and children were easily mobilized for such purposes, especially in urban areas. The Soviet Union sought a system of education which could compete with those in western countries operating at far higher standard than simply primary schooling.

A first step in creating the system, as we have seen, was in clarifying the goals of Soviet education, in promulgating legislation, and in developing the necessary infrastructure supporting the system. It may be expected that since the basic work on Soviet education relative to both legislation and infrastructure took place in the 1930s, the general standard was insufficient. The fact remains, however, that accomplishing universal primary schooling and expansion of educational opportunities at the upper grades strengthened the hitherto fragile commitment to public education and generated a lasting momentum for this sector of the economy.

Having made these observations, it must be said that enormous pressures were generated by the political climate, specific industrial and agricultural production goals, and the lack of the educational infrastructure. Thus, while pressures were toward an integrated general academic and labor training system, the Soviet system could not reconcile the rate of educational and economic expansion with qualitative factors. As a result, the Soviet education which emerged relied more on academic than rhetorical tributes to poly-

technical education would first indicate. Indeed, the rhetorical links between labor training and general education were dropped in the mid-1930s, as discussions moved toward methods of streamlining existing technical education opportunities and creating a separate labor training system for skilled and semi-skilled industrial workers. Thus, the Soviet authorities accomplished much, but left unresolved the issues of polytechnical training.

Footnotes to Part III

1. S.G. Shapovalenko, Polytechnic Education in the USSR, Paris: UNESCO, 1963, p. 45.
2. Resolutions and Decisions of the CPSU, Moscow 1970, vol. 3, pp.
3. Kulturnaya zhizn', 1928-1941, Moscow 1976, p. 138.
4. S. Fitzpatrick, Education and Social Mobility in the Soviet Union, 1921-1934, London: Cambridge University Press, 1979, p. 136.
- 4a. Sobranie zakonov i rasporyazhenii rabocheho i krest'yanskogo pravitel'stva SSSR, Moscow 1932, no. 1, text 41. The Supreme Economic Council was abolished and some of its functions were transferred to the Commissariat of Heavy industry.
5. The concept held all managers at each stage of the industrial hierarchy liable for the performances of their plant and workers and for the quality of reports reflecting that performance to the central authorities. The concept was first promoted by Lenin and later was regarded as a necessary complement to central planning. For systematic failure to observe standards in production, managers and specialists could be imprisoned. Sobranie zakonov, 1930, no. 8, art. 96, and Sobranie zakonov, 1930, no. 9, art. 115. See also E. Zaleski, Stalinist Planning for Economic Growth, 1933-1952, Chapel Hill, NC: University of North Carolina Press, 1980, p. 28n and p. 94.
- 5a Sobranie zakonov, 1933, no. 57, art. 333, and 1933, no. 40, art. 238.
6. The Supreme Council of the National Economy projected a deficit of one million skilled and semi-skilled workers by 1933. The estimates were not heeded and compulsory education, financial assistance, and compulsory military service complicated the process of sustaining flows of workers into industry. Zaleski, op cit.
7. E.H. Carr, The Bolshevik Revolution, 1917-1923, New York: MacMillan Co., 1952, pp. 202-203 mentioned that efforts for labor classification in relation to wage payments started early in the Soviet regime. Personnel classification continued through the 1920s and 1930s for purposes of estimating manpower requirements. Estimates were made for each of the plan periods in the forms of labor balances. Sobranie zakonov, 1925, no. 42, art. 321 (order to standardize employment nomenclatura and wages). The order spread to industry by sector. By 1938, all state employees and wage-workers were under the system.
8. Resolutions and Decisions of the CPSU, 1974, vol. 2, p. 367. The official instructions allowed individual institutions to establish the schedule for purging so that student's examinations would not be interrupted.

9. KPSS v rezolyutsiyakh, Moscow 1970, vol. 4, pp. 473-476. The first plan initiated a program of compulsory universal education from 30 July 1930. The second and third plans extended the compulsory schooling to seven and ten years, respectively. Expansion to the next stage of compulsory education were provided in the plans, showing preference for urban areas.
10. B. Gorokhoff, Materials for the Study of Soviet Specialised Education, Washington, DC: National Research Council, 1952, unpublished materials.
11. Sobranie uzakonenii i rasporyazhenii rabocheho i krest'yanskogo pravitel'stva, RSFSR, Moscow 1930, no. 38, art. 411.
12. Gorokhoff, op cit.
13. Stalin, Works, 1955, vol. 13, pp. 66-67.
14. V. Voznesensky, Socialist Industry in the USSR Victorious, Moscow 1961, p. 48.
15. KPSS v rezolyutsiyakh, vol. 4, pp. 569-577.
16. Resolutions and Decisions of the CPSU, vol. 3, p. 106; and Fitzpatrick, 1979, op cit, pp. 202 and 213.
17. Direktivy VKP(b) postanovleniya sovetskogo pravitel'stva o narodnom obrazovanii za 1917-1947gg, Moscow 1949, pp. 159-166.
18. Ibid, p. 169.
19. Narodnoe obrazovanie v SSSR, sbornik dokumentov, 1917-1973gg, Moscow 1974, p. 422. Sobranie zakonov, 1933, no. 64, art. 386.
20. Narodnoe obrazovanie, 1974, op cit, p. 164.
21. Kulturnaya zhizn', 1928-1941, op cit, p. 340; and Fitzpatrick, 1979, op cit, p. 213.
22. Fitzpatrick, 1979, ibid, p. 219; and Narodnoe obrazovanie, 1974, op cit, p. 425.
23. Direktivy VKP(b), op cit, pp. 166-168.
24. Soviet Education, (journal of translations), vol. 25, no. 2, December 1982, p. 65.
25. Sovetskaya pedagogika, vol. 4, no. 8, 1984, p. 90.
26. The objective was to use the FZU as the chief training mechanism following junior secondary schooling. The turn from academic subjects in the FZU reduced the popularity of the programs. Resolutions and Decisions of the CPSU, vol. 3, p. 74.

27. Sobranie zakonov, 1933, no. 59, art. 356, and ibid, 1933, no. 59, art. 357. The Yearbook of Education, London: Evans Brothers, 1932, pp. 931-937 indicated that in the Soviet Union about 50% of total outlays on technical education between 1931 and 1933 were for student stipends and maintenance. During that period, students in workers' faculties went from 139,000 to 270,000; in specialized secondary education from 108,000 to 237,800; and in specialized higher education from 110,600 to 254,000. Budgets went from 527 thousand rubles to 1.3 million rubles per year.
28. K.E. Bailes, Technology and Society under Lenin and Stalin, Princeton, NJ: Princeton University Press, 1978, chapter 7.
29. Ibid, chapter 9. Bailes said that by the late 1930s, the percentage of time in practical work had declined by 10-20% of the student's time and 30-40% from that in 1931. Further, he cited a 1938 law which required grades for practical work (p. 240.)
30. Sobranie zakonov, 1933, no. 59, art. 356.
31. Narodnoe obrazovanie, 1974, op cit, pp. 420-426. The 1932 law, according to Fitzpatrick, was an effort to reduce extraneous materials and to upgrade the technical content of the subject matter. Diploma work was also reintroduced.
32. Sobranie zakonov, 1934, no. 3, arts. 29 and 30.
33. Fitzpatrick, 1979, op cit, p. 220.
34. Direktivy VKP(b), op cit, pp. 168-169.
35. Ibid, pp. 170-173.
36. Soviet Culture, vol. 1, no. 3, 1934, pp. 3-5.
37. Sobranie zakonov, 1935, no. 47, art. 391.
38. Sobranie uzakonenii, 1934, no. 8, art. 46, and Kulturnaya zhizn', op cit, p. 380.
39. H.J. Berman, Justice in Russia, Cambridge, MA: Harvard University Press, 1950, pp. 39 and 237. Juvenile delinquency laws were regarded methods for controlling erratic youth behavior, particularly as parents were made responsible for their behavior at the costs of fines or other penalties determined according to the severity of the offense. Sobranie zakonov, 1935, no. 32, art. 252 (basic law on children); Sobranie zakonov, 1935, no. 19, art. 155 (parental responsibility);
40. Narodnoe obrazovanie, 1974, op cit, p. 350.
41. During 1935, efforts were made to create regularity in the employment process. A state commission on the civil service was established to identify and classify employment opportunities by category and

necessary qualifications. The rate of growth in employment between 1928-1939 precluded implementation of regular civil service standards beyond simple procedures for hiring and firing. Schools and job training programs were unable to supply sufficient numbers of workers with necessary qualifications. A. Kohl, "Labor Law and Practice in the USSR," Washington, DC: US Department of Labor, July 1964, part 2.

42. Constitution of the USSR, section 121, cited in Narodnoe obrazovanie, 1974, op cit, p. 7.
43. Sobranie zakonov, 1936, no. 27, arts. 250 and 251.
44. N. Konstantinov and E. Medynsky, Ocherki po istorii sovetskoi shkoly RSFSR za 30 let, Moscow 1948, p. 121.
45. Direktivy VKP(b), op cit., pp. 190-193.
46. Resolutions and Decisions of the CPSU, vol. 3, pp. 112-113. In the 1931 decree, Gosplan was told to cooperate with the teacher's union and Narkompros to create a differentiated salary scale for teachers taking into account credentials, level of schooling taught, regional cost of living, and the quality of teaching. This responded to problems in attracting a quality teaching corps. Unfortunately, it was largely unimplemented until reforms in 1936: Sobranie uzakoneni, 1936, no. 19, art. 163.
47. Gorokhoff, op cit.
48. N. Nozhno, Educational Planning in the USSR, Paris: UNESCO, 1968, p. 265. Bailes, op cit, pp. 287-294, indicated that engineering, management and technical staff with higher educations rose from 13.7% in 1928 to 16.8% in 1941, and that those with secondary educations went from 10.5% in 1928 to 16.9% in 1941. The statistical improvement was the result of the numbers of praktiki who suffered from purges.
49. The point of equating teachers with engineers related to the 1931 labor law specifying engineers as the "most privileged" of the labor force. Including teachers in the category reflected the serious attention to raising the level of teacher qualifications by providing monetary and other incentives associated with the labor classification.
50. Narodnoe obrazovanie, 1974, op cit, p. 460.
51. R. Schlesinger, History of the Communist Party of the USSR, Calcutta: Orient Longman, 1977, pp. 310-311.
52. D. Zhimerin, Economy of the Soviet Union, Past and Present, Moscow 1958. Zhimerin made two points. In the third five year plan, the education program called for compulsory ten years of education to be instituted in urban areas by 1939. Secondly, labor had to be mechanized, but advances in technological applications were themselves dependent on the availability of sufficient numbers of workers with appropriate educations.

53. C. Simmonds, Technical Education in the USSR, London: Society for Cultural Relations with the USSR, 1954, p. 9, indicated that technical training within the context of general education was abandoned after 1935. Shapovalenko, op cit, p. 47, indicated that formal measures for removing practical training from the general school curricula were taken in 1937.
54. Bol'shevik, 1941, no. 7/8, pp. 37-50.
55. Schlesinger, op cit, p. 312. A.G. Raschen, Istoriya SSSR, no. 2, March-April 1961, p. 17 indicated that between 1936 and 1940, 8 million workers (of whom 2 million were women) received training in "technical minimum courses" at the lower level, and 396,000 at the upper level. In addition, this period saw the "thousanders" campaign to insert Communists into institutions of higher learning. The latter campaign set out to improve the qualifications of Communists who ultimately would become industrial managers or other leaders in the economy.
56. KPSS v rezolyutsiyakh, vol. 5, pp. 302-312. Absenteeism laws were more rigorous and labor books were held by management until an employment change was approved by management.
57. Shumilin, op cit, p. 71.
58. H.J. Berman and M. Kerner, Documents on Soviet Military Law and Administration, Cambridge, MA: Harvard University Press, 1955, pp. 21-36.
59. Soviet Education, op cit, pp. 17-18.
60. Pedagogicheskaya entsiklopediia, vol. 3, Moscow 1966, pp. 466-467.

Part IV

Soviet Education During the War

Introduction

There is little detailed information from Soviet sources about their education system during the period of the second world war. Treatments of the period by Soviet authorities stress that efforts were made to maintain access to education in areas not subject to German occupation. The lack of information on the subject (beyond disaster-related acknowledgements) probably resulted from Soviet perceptions of post-war national security and lack of data on which to base analyses. The Soviet government in post-war years did not wish to advertise their vulnerabilities, the economic implications of war-generated destruction, or their methods of coping with problems of economic and social reconstruction.

It has been stated that the effects of war on the USSR were especially severe, causing the loss of millions of lives, lowered rates of births, redirection of academic personnel to the war effort, and a refocussed education experience. We do not know the extent to which population changes brought about by the Stalin purges of the 1930s are obscured by war losses. It is certain only that additional millions died, not just from purges but by famine in the Ukraine and the Volga areas in the early part of the decade. These additional deaths caused exaggerated disproportion in the balance of males and females in the population. The population shifts were important to developments in Soviet education in the 1950s.

Insofar as education was regarded as a priority during the critical war years (say, up to 1943), and it is obvious that military

and economic survival were far more important, there are three distinct areas of interest:

- . changes in the structure, standards, and curricula for technical training;
- . changes in peripheral laws concerning general education; and
- . dysfunction of the education system due to war.

The over-riding common thread among these factors was the orientation of education and training to war preparation and production.

This chapter discusses the implications of war for the education system in the Soviet Union. Addressed are changes in technical training and general education policies and organization shortly before and during the war; evacuation of individuals and matériel to unoccupied areas and those implications for education; and heightened awareness of mutual dependence of education and economic sophistication. The chapter also discusses demographic shifts occurring during the war years.

Changes in Technical Education Policies

By the late 1930s, the major remaining unresolved organizational question in education concerned technical training. General education had not efficiently integrated job skills into the daily school routine. Manpower shortages of skilled and semi-skilled labor pressured industrialists and government toward creating a coordinated system of job training, recruitment, and placement. Problems with financing the expansion of education, teacher preparedness, and equipping training facilities reduced the effectiveness of school workshops. The majority of youth entering industrial and agricultural employment relied on the factory, MTS, or farm for on-the-job training.

Shortages of skilled and semi-skilled labor were the result of several factors. First, laws governing the labor force were designed to restrict and reduce the level of migration from rural to urban areas. Secondly, the urban workforce was over-extended numerically relative to the anticipated rates of industrial development, while insufficient efforts were made for drawing marginal categories of persons into employment. Thirdly, the fear of and mobilization for war reduced the numbers of youth entering industrial employment, and also drew on those already in the labor force. Previous efforts for training workers prior to industrial employment had not equipped graduates for ready adaptation to new technologies, and many consequently required interim re-training at the factory. Finally, education absorbed excess time for an impressive number of urban workers, but reduced time available for over-time or second jobs.

Restrictions on Rural Mobility. In the early 1930s, industry had access to relatively unlimited numbers of unskilled workers, as

movement from rural to urban areas was not especially controlled. After 1932, rural youth were obliged to work on farms from the age of 12, were eligible for entrance to the kolkhoz labor force from the age of 16, and did not have the right to quit agricultural employment once membership in the kolkhoz had been granted.¹ Requirements for labor-day contributions by rural youth were an impediment to mobility, and from 1940 this was compounded by criminal law provisions if unfulfilled.² Importantly, internal mobility was further restricted by a requirement for an internal passport, to which rural youth did not have an automatic right.³ Obtaining a passport required permission from the local Soviet, but actually taking legal residence in the city required a permit from urban authorities who also required proof of available housing.⁴ During the war period, internal passports were discontinued, but terms of war mobilization of the workforce were almost as restrictive.⁵

Formation of the Industrial Labor Force. It has been shown elsewhere that the anticipated rate of industrial development envisaged in the Third Five Year Plan would have required a substantial rate of growth in the urban labor force. One Soviet estimate indicated that an increase of 27% (or about six million over 1937 non-agricultural employment levels) would be required, presuming also improved per capita productivity and mechanization of industrial processes.⁶ In 1939, Stalin said that kolkhozy would be requested to release 1.5 million youth each year for industrial employment.⁷

Conditions in the late 1930s worked against forming a substantially larger labor force. While numbers of urban youth engaged in

pre-employment training, education, and military service were notably increased in comparison with the 1920s, job training programs in the late 1930s had not achieved targeted levels of enrollments. Potential replacements of these losses of skilled labor by encouraging women into the workforce were moderately successful, but women moved into less skilled industrial jobs or into education.⁸ Replacing the loss of male youth in the labor force brought about intensified efforts to increase the flow from rural to urban areas. One method seen in use in the 1930s was the organized recruitment of rural youth for industrial training and employment. But the competency levels of rural youth were well below those of their urban contemporaries, and extensive preparatory programs were required as levels of technology advanced. Moreover, it has been shown that official efforts to recruit labor were not well coordinated.⁹

Organized and extra-legal transfers of rural population to the urban centers caused a substantial expansion of urban population between 1930 and 1940. If it is presumed that the majority of such individuals sought education or employment, the migration pattern generated extraordinary pressures on urban education facilities for accommodation of the influx of students. M. Feshbach stated that three million individuals shifted each year from rural to urban centers during the 1930s, legal restrictions notwithstanding.¹⁰ Another analyst countered that between 1930 and 1940 forced movements of workers to the east were between 2 and 10 million.¹¹ Nonetheless, the shortfall in new industrial labor increments between 1937 and 1940 was an estimated 3.8 million.¹²

War Mobilization. The numbers of youth in active military service increased from nearly 1.4 million in 1937 to approximately 2.5 million in 1940 (see appendix 1). Industry could not have ignored in its planning the need for replacing mobilized workers, for shifting types of assignments in accommodating restrictions on type and hours of work for women and juveniles, and for job training of replacement personnel. It would have been anticipated that in the event of actual conflict, mobilization would rise precipitously, as indeed it did. By the war's end, 11.4 million were serving in the armed forces, while millions of military and civilian personnel were either killed or transported.¹³ Moreover, redirection of youth to development schemes in the east increased constraints on industries in western parts of the Soviet Union in securing its own labor supplies.

Job Training Programs. During the 1930s, several kinds of employment readiness schemes were available. First, there were the technical schools of the secondary and higher education levels. These were designed to provide industry with managers and technicians of varying, but skilled, capabilities. Then, there were the Central Institute of Labor schemes which were abandoned since the extremely narrow focus of the training did not prove an acceptable preparation even of semi-skilled workers. The inability of workers to cope with industrial change without additional training was extremely serious in the midst of an industrial modernization and expansion campaign. There were also rabfaks and the FZU schools which were reduced in numbers of programs and potential graduates by the end of the 1930s. The schools were also criticised for their low standards. Consequently, industry trained most of its new labor

in factory-based settings. Educationalists and industrialists alike were concerned that instructional capacity (drawn as it was from the workforce) would reduce production shortfalls, and would offer inadequate theoretical backgrounds to workers. Factory training remained an important element in the educational spectrum during the war, when over 11 million workers were trained in such settings between 1941 and 1945.¹⁴

Education Opportunities for Working Youth. From the mid-1930s, several programs increased participation of urban youth in education. The spread of general ten-year education was a top priority, but availability was both uneven and highly competitive. It is perhaps significant that the numbers of youth in full-time secondary and higher education appear to correlate with the estimated shortfall in labor force entrants. In 1940, there were approximately 2.4 million general education students, 1.0 specialized secondary education students, and .6 million higher education students.¹⁵ This sacrifice to the economy worked against broader application of full-time education opportunities to working youth, whom it was believed could not be spared for full-time study. The expansion of correspondence, part-time specialized and higher education absorbed the time of approximately 155,000 secondary students and 254,000 higher education students by 1940.¹⁶ It may be anticipated that the majority were young adults.

Thus, we find in the late 1930s a combination of factors pushing government toward developing a national training scheme with incentives for attracting and sustaining necessary enrollments. Perhaps it is due to the proximity of war that the form this training system took was the State Labor Reserve. The system offered job training to youth

with primary schooling, was regarded as a route for youth mobilization, and the terms of involvement were both voluntary and compulsory.

The Labor Reserve.

An alternative to general secondary education was established in 1940, when the government created the State Labor Reserve.¹⁷ The new program was introduced with the statement, "The State is confronted with the task of ensuring organized training of new workers from urban and collective farm youth and the formation of necessary labor reserves for industry." The programs were under the authority of the Central Administration for Labor Reserves (which was itself subject to the authority of the Council of People's Commissars). The Central Administration was established to elaborate training curricula, control the work of training, organize placements of Labor Reserve graduates, and train technical education teachers. Thus, for the first time, efforts for coordinating intake of job training programs, planning types of training in relation to industrial expectations of demand and government expansion efforts, and assigning workers to employment were under the same authority.

Types of Labor Reserve Programs. The Labor Reserve offered specialised job preparation programs ranging from 6 months to 2 years in duration. The programs were offered through an extended network of industrial training schools (fabrichno zavodnoe obuchenie, FZO) and through extended programs for work in mines, railroads, communications, construction and other trades (remeslennye uchilishcha, or simply uchilishcha). In 1941, the network of FZO schools was integrated into the Labor Reserve system.¹⁸ Since the FZO schools

were fairly widely available, this type of program dominated the original Labor Reserve offerings. The FZO produced the greatest number of workers, if only because the courses were much shorter. FZO produced 1.8 million workers between 1941 and 1945, against .7 million by other Labor Reserve schools.¹⁹ In 1943, the Labor Reserve added the Nakhimov and Suvorov schools, which provided military boarding arrangements for children of military killed during the war and for other orphaned children whose parents died in service of country.²⁰ Additionally, three to twelve month courses were developed from 1943 to provide trained agricultural workers for areas devastated by war.²¹ In 1944, agricultural studies were offered in programs of one and two years duration. Graduates of these programs were relatively few -- 7,400 in 1944 and 34,700 in 1945.²²

Eligibility for Labor Reserve Training. The Labor Reserve had the authority for inducting up to one million students each year. During the first five years of its existence, the quota was not met, although recourse to mandatory conscription in addition to voluntary enrollments was allowed under law and was practiced.²³ Appendix 2 presents data on graduations from Labor Reserve programs through 1945.

From the inception of the program, intake was limited to boys aged 14 to 17. In the war period, this apparently was extended to girls, presumably absorbing some of the orphaned children and taking an organized approach toward building labor supplies for reconstruction.²⁴ The formula for intake was different for rural and urban youth. In the former case, the legal quota was two youth

per hundred able-bodied kolkhoz members between the ages of 14 and 55. In the latter case, the total enrollments were set by local soviets according to local industrial requirements and plans developed by central authorities. Given the sensitive nature of any organized recruitment process, much less conscription, the Labor Reserve quotas were subjected to Council of Minister's approval.

Eligibility for programs included different standards of prior education. As noted above, Nakhimov and Suvorov schools usually accepted students from a restricted universe of candidates. The Nakhimov schools, further, accepted students only for grades 6-10. It is thought that such schools were not widespread. Their significance is in the fact that they existed and reserved a portion of youth for military careers. For FZU and extended programs of more than a year, requirements varied between fourth and seventh grade attainments. However, the schools had particularly heavy enrollments from urban areas, which leads to the supposition that the programs were not simply designed for drawing rural youth into industrial employment. The Labor Reserve programs of the uchilishcha type attracted voluntary enrollments because the graduates (on completion of compulsory work assignments) then became eligible for further technical studies, were devised for offering significant theoretical content, and provided a legal means for rural youth to leave the kolkhoz. During the war, however, the academic portion of the uchilishcha programs was de-emphasized in the interests of rapid training.

Labor Reserve Graduates. As it is expected, the Labor Reserve trained students for work in specific industrial settings. The

students only supplemented new labor intakes who received on-the-job training. Obviously, the majority of students were in short-term courses which related to industry and construction.

It has been shown elsewhere that the majority of Labor Reserve graduates were assigned to employment in factories or other settings in which they received their initial practical training.²⁵ However, the Labor Reserve itself was devised for accommodating new development projects promoted by central authorities. By the war's end, some managers indicated that significant percentages of their staffing were assigned through the Labor Reserve.²⁶ Given the war-generated disruptions in the labor supply, this was not surprising. The Labor Reserve cadres were the most easily mobilized of the manpower base and had specialized skills, theoretically those desired by industrial managers. Appendix 3 offers data on the fields of specialization of these graduates. Through the text, schools and students in programs run by the Labor Reserve are referred to as Labor Reserve schools or graduates, unless otherwise noted.

Changes in General Education Policies

It is within the context of the need for additional trained labor, the opening of the Labor Reserve system, and the desire for resolving systemic manpower shortages that alterations in general education policies between 1939 and 1945 seem to have a purpose. The circumstances of war prompted peripheral policy changes which may have more significance in ideological terms than to the goal of mass education. The significant dominant theme of the period, however, was the emphasis on accommodation to the war less through

formal policy adjustments than through simple practical expediency.

Introduction of Fee Payments. Between 1939 and 1940, students in higher and secondary education were confronted with a new fee requirement.²⁷ Some analysts have stated that such fees would not have caused many to lose access to education, judging the level of fees against the typical urban worker's annual income.²⁸ On the contrary, there is much room to believe that rural students, in particular, whose families had lower cash income levels, would be forced to seek education and employment alternatives. Moreover, urban workers' salaries were on the average insufficient to sustain the loss of tuition grants which previously had been available. In the early 1940s, there was a precipitous drop in enrollments -- due to a combination of military conscriptions, loss of education facilities, and the tuition charges. In 1943, a system of scholarships was created. The limited availability of scholarships and stipends were differentiated according to the field of study, and the amounts did not cover tuition and living expenses for students in all fields of study.²⁹ Official explanations for the fees (which ranged between 300 and 500 rubles annually for higher education and 150 and 200 rubles for secondary education) stated that there was a desire for offsetting a portion of state expenditures on education, observing that such costs had grown rapidly in the recent past. This is only a partial justification for the tuition payments. The Soviet system of taxation had been adjusted to rechannel as much "surplus" income and revenues as possible from all economic sectors and from individuals. The fees represented a form of taxation which would bring into the defense coffers additional, albeit marginal,

revenues. Receipts from tuition might have generated as much as 300 million rubles from higher education and 500 million rubles from secondary programs in 1940 alone, but declining enrollments during the war rapidly reduced the significance of such receipts.³⁰

It must be pointed out that introduction of tuition payments in secondary and higher education was not matched by similar measures in most technical education/training settings. The lack of such fee requirements served to reiterate official concerns that the labor supply was the critical issue of the day.

Changes in Curricula. Early accommodation to war-time conditions are seen in a series of curricula changes for general education and the purposes of university research. In 1942, syllabuses in the general education programs added compulsory physical and military training. This requirement absorbed an estimated 6-11% of program time, depending on the level of the class.³¹ Compulsory military training, however, did not signify automatic induction into the service. Further, all students were required to devote extra-curricula hours to "socially useful work" -- frequently mentioned are students' efforts in hospitals and in garden plots associated with schools.³² However, it is recalled that unofficial accommodations also occurred. In some areas under occupation, and even in unoccupied regions, food supplies were short. Students' time was spent searching for supplies. This was probably not an insignificant loss of academic time.

Between 1941 and 1942, Soviet officials complained that insufficient attention was accorded to "moral instruction" in the schools. This referred to civics training and the inculcation of nationalist, anti-fascist spirit.³³ The complaints

came in the wake of reported wide-scale defections of Soviet citizens to the German cause. A. Werth provided some insight into the new instructional climate. In particular, he mentioned that the period prior to the invasion was characterized by efforts to play down the threat posed by the German military presence in Eastern Europe. The non-aggression pact was in place and the Soviets had moved to build territorial insulation by annexations. Werth interpreted the pre-war exhaltations in the Soviet press of the benefits of neutrality as the cause of general psychological ambivalence among the Soviet populations which continued even after the invasion had begun.³⁴ The situation was complicated by mixed loyalties among the annexed Baltic populations and by nationalist groups in the Ukraine, for instance, which were openly hostile to the Soviet régime. There was substantial migration to the West from these areas after the German invasion. Nonetheless, the Soviet schools were instructed to include value-loaded instruction in efforts to raise public resistance to German influence.

Changes in Organization. There were major policy changes undertaken during the war which had implications for post-war education. These were not entirely accommodation to war conditions, but the timing was probably related. Of major importance to Soviet education was the creation in 1943 of the RSFSR Academy of Pedagogical Sciences.³⁵ The new Academy replaced Narkompros leadership in the area of general pedagogical research. It will be recalled that Narkompros duties concerning higher education had been removed during the late 1920s, and the 1940 legislation absorbed similar functions for technical training. Narkompros retained only

administration of general education and this authority was dispersed among the republics.

Original guidelines for the RSFSR Academy, significantly designated as the highest educational research institution in the Soviet Union, were promotion of public education, dissemination of pedagogical information, conducting scientific work on general and special psychological and pedagogical issues, teacher training for higher education and research, and promoting scientific pedagogy. The instructions ended hopes for a single governmental authority for education policy and administration. An essential element of general education -- formulation of guiding principles -- was removed from Narkompros jurisdiction. Policy formulation was reserved as a Party function and administration of education divided laterally among several agencies within a single republic.

Primary Education. An early recommendation of the RSFSR Academy adopted by the Russian Republic concerned a lowered age for compulsory school attendance. In the 1944/45 academic year, statistics indicate that several million seven-year-olds entered the first grade along with previously scheduled eight-year-olds.³⁶ The rule took longer than a single academic year to fully implement.

Secondary Education. Junior and senior secondary education was generally sacrificed during the war, although from 1943 efforts were made to restore access. A policy was adopted encouraging development of education programs for students whose academic progress had been interrupted by war. This was paralleled by lower rates of military inductions. Created, or effectively re-created, were Schools for Working Youth, designed to offer on a part-time

basis a condensed version of the general secondary program.³⁷ A year later, Schools for Rural Youth were established.³⁸ However, unlike the urban program which was usually junior secondary through higher secondary levels, the rural schools offered studies from primary through junior secondary levels.

Segregation in the Schools. In addition to the policies and organizational changes mentioned above, several peripheral decrees were adopted in 1943. Separation of urban school enrollments after the seventh grade according to sex was a policy adopted to facilitate military training of boys. Official explanations declared that for reasons of differences in physical development and hygiene, girls would be "provided separate but equal" educations, substituting home economics for military studies.³⁹ A later explanation was offered in 1954 by E. Medynsky, who wrote that:

...separate schools were economically feasible; equality among the sexes was an established fact; the time was present that enabled government to prepare the children for different roles in life; and experiments during the 1942/43 academic year in Moscow secondary schools had been well debated by the Council of Ministers...⁴⁰

This smacks of latter-day justifications of a policy which was ill-timed relative to the massive problems encountered by education authorities simply to cope with war-time conditions, and it was clearly invalid in relation to the strong anti-sexist stance of revolutionary ideology. According to Soviet sources, segregated education was implemented in 76 cities in 1943, expanded to 194 cities in 1944, and to 197 cities by 1945, affecting nearly a million pupils.⁴¹

Student Conduct. A code of student behavior was made compulsory in 1943.⁴² It is likely that the adoption of the code was meaningful if viewed as fostering attitudes toward military readiness, but also

countering recurrent problems with bezprizornye. The code is reminiscent of Makarenko's theories that students function best if they are treated with respect, are expected to behave within the bounds of articulated discipline, and have their roles and goals stated in advance.⁴³ Modern observers might find such a perspective somewhat utopian.

Academic Standards. A reader might ask what constitutes academic standards, while a suggested response might be the contents, structure,^{and} relevance of a course, and performances of teachers and students. Changes which took place for improving Soviet academic standards may be understood also as a reaction to Soviet experiences in the 1930s, during which the methodology of education underwent radical change, while large numbers of out-of-age-group students paralleled a lower academic standard and problems of competency in the resultant labor supply.

In an analysis of the reconstruction of the Ukraine, the issue was ensuring the quality of education in the face of (a) adult students, (b) students who were employed, and (c) students who constantly were drawn from school responsibilities for work on basic reconstruction (e.g., housing, schools, and other essential facilities). Attention was given to academic performances after 1943. Annual competency examinations for grades 4 to 7 and 10 were mandatory. From 1943/44, all students from grade 4 were faced with annual promotional or competency tests which determined their eligibility for the next level of schooling. The examinations and the attestat (certification of academic competency at the secondary level) offered assurances to hiring authorities that what was needed to be taught was in fact

presented to and absorbed by the students.⁴⁴

Reconstruction of education was aided by a peculiar war-time situation existing in areas under occupation or those which were newly liberated. At various stages, three school systems existed in the Ukraine and the Baltic states: German-run schools, Soviet-model schools, and schools run by partisans.⁴⁵ The partisan schools were operated in the most primitive conditions and supposedly used a modified Soviet-type program -- but had shorter courses, mandatory labor training (usually agricultural in nature), and catch-as-catch-can materials, supplies, and teachers. Some of the schools were later integrated into the Schools for Working or Peasant Youth.

Teacher Qualifications and Remuneration. Teachers' salaries are a controversial issue in any country. To some extent, the problem is in the immediate need for talented manpower versus the long-term investment in tomorrow's leaders. Both demands must be met. The Soviets addressed the issue by providing separate educational processes for teacher training which removed such persons from the prospective industrial manpower base. However, attracting the best students into education training was strongly influenced by the salary packages and upward mobility which often was more attractive within industrial employment.

In the early post-revolutionary days, erratic payments to teachers encouraged many to seek alternative employment. Salary schedules per se were not universally applied until 1937, and associated benefits were not available until 1939. The bulk of wages in the early period came from in-kind contributions (food, clothing, and housing). The 1936 legislation established a system which

created salary differentials according to the level of education taught and urban/rural classifications. In the latter part of the 1930s, special categories were added to the schedule to award outstanding contributions in education. In 1943, the basic 1936 schedule was revised, narrowing the differentials in earnings between the highest and lowest paid teachers and taking into account inflationary pressures. The 1943 law adjusted primary and secondary teachers' salaries about one-third above the previous level.⁴⁶

Teachers' qualifications were an increasingly sensitive issue for the war period. The problem was that war-time civilian and military casualties depleted the teacher corps. In Gorki oblast, for example, it was reported that 144 of 280 directors of secondary schools went into the army.⁴⁷ The numbers of teachers in 1941 were 1.2 million, but declined to .8 million in 1943,⁴⁸ and one may suppose that the decline was worse than the numerical loss due to shifts in the credentials held by personnel. In reducing teacher shortages, many areas in the Ukraine, for instance, which were particularly hard hit by German occupation, recruited students from upper grades to act as primary school instructors.⁴⁹

Lack of teacher qualifications emerged as a serious problem. The standards, reissued in 1943, complicated the situation.⁵⁰

. For grades 1 to 4, normal or technical school training, with qualifications to be met by 1947.

. For grades 5 to 7, pedagogical institutes or higher education, with qualifications to be met by 1947.

. For grades 8 to 10, pedagogical institutes within higher education institutions, with qualifications to be met by 1948.

On paper, these sound reasonable. Practically, however, achieving the qualifications by the dates indicated was another matter indeed. Such training programs were not widely available after the war and the vast majority of new teachers remained without academic qualifications. In countering some of the difficulties, the government established pedagogical correspondence courses and mutual assistance learning.⁵¹ On the one hand, it may be said that correspondence courses are not an entirely inappropriate approach (although not optimal) for improving teacher qualifications. It must be noted also that the pedagogical working groups were not overly successful. The continued poor standard of teaching, even after participation in the groups, was sufficient reason to quickly eliminate that route.⁵²

Higher Education. Accommodation to war was made by all the higher education faculties. Research was refocussed on problems of military organization and industrial production and reportedly significant contributions were made by academics in developing technologies which competed with those of the advanced German military.⁵³ Bereday has shown that attrition rates in higher education were very high. During the war, admissions were allowed year round. In 1941, students could be drafted and few exceptions were allowed. In 1942, drafts were relaxed for third and fourth year students, while some were demobilized to continue studies. Admissions requirements were also relaxed.⁵⁴ A 1943 decree listed faculties whose students were exempted from military service. The decree included students of aviation, military supplies, shipbuilding, chemistry, metals industries, energy, transportation, communications, and semi-professional technical studies.⁵⁵

These arrangements were not surprising in war-time. It is interesting to note from DeWitt's research that admissions into higher education were heavily in such fields as education rather than in engineering, as had been the case during the 1930s. While this may be explained by the fact that women could more easily continue their studies in the war period, it is also probably a factor which led to the 1943 instruction to the Committee on Higher Education for pursuing placement^{in employment} of higher education graduates. Appendix 4 illustrates the point.

War-Time Adjustments and Implications for Education

It was perhaps jumping ahead to have discussed policy changes before providing information on the adjustments of the Soviet system to the war. We have seen that the military draft was a serious impediment to university-level training. We have seen that the Labor Reserve program was regarded as extremely important for mobilization of youth for production. We have also seen that various adjustments in school policies were made to establish academic standards. Each of the points illustrated the Soviet commitment toward balancing pressures in youth toward education, labor training, and employment.

This section returns to the beginning of the war period to look at industrial and population demographics insofar as they related to education. The issues of education demography and related policy changes are treated both in this and the subsequent chapter. Such issues are brought forward here primarily because interest in regional economic expansion within the Soviet Union (with its obvious connections to expanding education resources) is well illustrated

by decisions taken during the war. Of course, longer-term effects of population changes caused by the war were felt only gradually, and these (coupled with issues generated by the program for regional expansion) are the basis for changes in education during the 1950s.

Structure of the Soviet Population. There is some uncertainty about official Soviet population data for the pre-war period. These concerns are not addressed here. Specific benchmarks, regarded as estimates only, offer some insight into official expectations for growth of the labor force and for development of education. More discrete indicators, necessary to a discussion of the connections among education, labor, and demography are incomplete. Aggregate data, for example, concerning the age, sex, and geographic distribution of population are important backgrounds for policies which address the availability of cadres. Data are not available for particular sectors combining several characteristics (for example, age and sex, plus geographic combinations). Data are also required for the numbers of births and infant mortalities, as well as for general death rates, as these are the basis for the ^{planned} expansion of the labor supply and for education/training programs.

Base Population and Pre-War Annexations. Appendix 5 provides data on the total Soviet population from the pre-revolutionary period to the beginning of the World War. From these, we can see that the USSR went from 137.5 million in 1917 to an estimated 170.6 million in 1939. Then, with the annexations discussed below, the population of the Soviet Union was an estimated 194.1 million in 1940.

In 1939, the USSR annexed territory from eastern Poland and in 1940 took in Bessarabia and Northern Bukovina from Rumania, as well

as Latvia, Estonia and Lithuania.⁵⁷ During the war, additional areas were annexed, including the Sakhalin Islands, the Kuriles, Tannu Tuva, and the northern part of German East Prussia. Minor territorial adjustments (involving territory from Czechoslovakia in 1945 and cessation of a small strip from Moldavia back to Poland at the end of the war) completed the Soviet expansion. Two annexations from Poland and Rumania were particularly important, bringing the USSR 575,000 square kilometers and more than 20 million population.

Sex Composition of the Soviet Population. From appendix 6, we see that in 1939, the Soviet population had a male:female ratio of 82:89, respectively. In the working-age group (e.g., 16-59), 67% of the population were available for work, at least theoretically, but the ratio of men to women was probably slightly more skewed due to the effects of purges, war, and collectivization. Unfortunately, this imbalance would be carried forward in the younger generations, which in turn had implications for labor force formation and, in the face of 1943 regulations for separate educations by sex, some implications for school planning. Specific data are not available for determining the extent of sex imbalance in the younger age groups, although it is believed not to have been very significant. The desirable situation would be parity or slightly more men than women. By 1945, sex distribution of population aged 20 or older was reported as 60:100, respectively. If the data are correct, they indicate a tremendous burden on authorities for identifying compensatory labor resources. In its turn, pressures for pulling together labor cadres for industrial and agricultural purposes created a disincentive for expanding education and, indeed, tested the Soviet Union's commitment

to equal education in urban and rural settings.

Geographic Distribution. Analysis of the geographic distribution of Soviet population should take into account population estimates for various jurisdictions (republics, krai, oblasts), urban and rural designations, and in economic planning area. From appendix 7, we can readily see that the 1939 population of the Soviet Union was concentrated in the RSFSR and the Ukraine, and that there was a strong trend toward urbanization. The fact that the urban population had more than doubled by the late 1930s placed a great burden on authorities to provide municipal facilities (housing, medical services, food, transportation, and education). We may surmise that as an estimated 68% of the Soviet population were classified as rural, there was potential for growth of industrial manpower from that resource. Agriculture, it has been shown elsewhere, required substantial mechanization before shifting such workers could be accomplished without causing disruption in the agricultural economy.

For education, the geographical distribution of population meant that substantial investment in infrastructure would continue for the foreseeable future, especially if universal secondary education were to be achieved. It must be recalled that migration to urban from rural areas concentrated largely on labor recruitment for heavy industry and construction, and thus, mainly on males. Therefore, we have reason for presuming that the rural population was particularly skewed by age and sex distribution. This would have its own implications to the types of education offered and for labor force migration.

Birth Rates. For purposes of planning education, the rates of births and infant mortalities are of particular interest. Data in

appendix 8 are not especially reliable, but serve as illustrations that, prior to the war, birth rates were erratic for the whole of the Soviet period. The effects of the First World War, civil war, and famine due to displacement of agricultural workers, were followed by several years of economic recovery in the mid-1920s. These years allowed the USSR to show a modest population increase by the end of the decade. The period of the 1930s was tumultuous -- collectivization, de-kulakization, purges, famine, preparation for war, and the general age-sex imbalance caused the birth rates to be uneven. The births which occurred, it is thought, were offset by high rates of infant mortalities, but estimated infant births were exceeded by total mortalities by as much as 19 million between 1941 and 1945.

The Labor Force. There is little information about the labor force in the pre-war period, although aggregate data and some scattered references allow some general observations. In 1940, the Soviet population was an estimated 194.1 million. The country was administered in 14 economic regions -- 9 within the RSFSR and 5 covering the rest of the country. That year, over 80% (or 25 million of the approximately 31 million) of the industrial work force were located in western parts of the USSR. Approximately 50% of employed persons in the USSR worked in agriculture. Four regions (central, south Ukraine, the northwest, and the Urals) contained 70% of Soviet manufacturing and the bulk of Soviet agriculture.⁵⁸ Concentrations of industry and agriculture in these areas rendered the country especially vulnerable when aggressive action from Germany commenced in June 1941.

We know that many women were involved in the labor force, with their greatest concentrations in agriculture, low skills industrial occupations, and in education.⁵⁹ There is also some evidence that youth (e.g., under 23) were nearly 40% of some critical areas of industrial employment (for example, in coal mining, tractor building, and some defense industries). Trud v SSSR in 1936 indicated that in 1934 youth aged 16-17 years were especially important to the labor force in heavy industry (at 348,000 workers).^{59a} V. Voznesensky indicated that in 1939, 6% of industrial workers were under the age of 18.⁶⁰ Participation rates of women and youth were accelerated during the war in response to labor law changes requiring all persons to become engaged in socially useful activities. M. Matthews indicated that youth under the age of 23 years were up to 55% of some war-related industrial employment.⁶¹

Effects of Occupation and War on the Labor Supply. By the end of 1941, the German front lines extended from Leningrad to Moscow, through Kharkov to Rostov, effectively occupying all the southern and western regions, as well as parts of the northwestern and central regions. Axis countries occupied Black Sea and coastal areas. Areas under occupation accounted for nearly 35% of the 31 million industrial workers who were located there in 1940. Additional territorial gains by the Germans in 1942/43 brought the total area under German occupation for extensive periods to that which had produced about one-third of total Soviet industrial output for 1940.⁶² The extent to which the populations remained in these areas or the extent to which industry remained in commission are unclear.

In general, it is believed that one-third of industrial workers migrated east in response to the relocation of industry. This indicates that about 3 million relocated, leaving the others to join the military or to remain in areas under enemy domination.⁶³ The decline in active labor force to an estimated 50% of the 1940s cadres was catastrophic. The losses were in some instances permanent (e.g., the death rates, as discussed earlier, were very heavy among young workers who were conscripted or transported to the West, as well as among children who were especially vulnerable to war-time deprivations).

Industrial manpower in 1945 was estimated at 27.2 million. Employment was nearly restored to 1940 levels in heavy industry, coal mining, and machine building and agriculture, but certain sectors of lower economic priority (textiles and agriculture, for instance) were significantly below pre-war employment levels. Further, skilled and specialized workers in industry could not be replaced in the short-term, especially in such orders of magnitude. The implications of pre-war and war-time emphasis on industrial development in eastern zones, furthermore, implied an intention to sustain the development program in the post-war period.

Relocation of Education Facilities. Qualitative presentations of the effects of war on Soviet industry, manpower, and education have been given in Soviet texts. At the outset of the war, the Soviet government issued orders requiring industrial complexes, faculties of higher education, technical colleges, labor, children, and their teachers to be evacuated.⁶⁴ Efforts were directed to wholesale removals of industry to the east. Development of industrial centers took place in the Urals, Transcaucasia, Kazakhstan, and West

Siberia. These areas were developed because they were relative close to energy supplies (e.g., coal and oil) which were either already under exploitation or readily accessible to development activities.

Paralleling the evacuation of industry, some education faculties were moved east on a priority basis. Included were scientific and polytechnic/faculties and students in metals, chemicals, and communications programs. We know, therefore, that of the 585,000 higher education students enrolled in 1940, at least 176,800 could have been subject to evacuation orders. Similarly, we may presume that 234,000 of the 819,000 full-time secondary specialized education students could have been subject to evacuation.⁶⁵

In qualitative terms, it is believed that equipment and libraries were rescued for about 150 universities and institutes prior to the German invasion.⁶⁶ References are vague as to which institutions were involved or the extent of coordination, much less the comprehensive nature of the rescuer efforts. One may presume that much was lost either due to haste or in transport. In the period of reconstruction from 1943, however, the library holdings were redistributed among the re-established education centers as "seed", and in fact were extremely important to academic life. The pace of the invasion took toll on higher education in the Baltic countries, where it was reported that the German occupation authorities were instructed to retain only the faculties of dentistry, theology, and law.⁶⁷ In these countries, massive library holdings were presumably destroyed or transported to the West.

Expansion and absorption of education programs of all types and levels started in 1941 in zones east of the front. In particular, it

would be interesting to have statistics on the numbers enrolled in the programs and the ratios of teachers to students, as well as details of the programs themselves. Unfortunately, education authorities were unable to maintain statistics under war-time conditions; and while a 1942 law required records on unaccompanied children to the age of 14, the extent to which the requirement was enforced and the numbers involved have not been published. We may presume that there was a massive overall contraction in enrollments of all types, and that expansion of primary schools after 1942 did not approximate the numbers for whom it has been reported that schools were decommissioned.⁶⁹ Further, significant numbers of children may have chosen to work in industry or agriculture; others may not have registered with the local authorities.

Population Estimates After the War. There are no reliable statistics about population losses in the USSR for the war period. There are some calculations of military and civilian casualties, transported workers, emigrations, and lowered birth rates. The population data used here were developed by A. Sauvy, a French demographer. More recent discussions of the period do not substantially improve these estimates. Thus, we see that by the end of the war period, there were as many as 10 million military casualties, 10 million civilian deaths related to military occupation and action, emigration of 3 million, lowered birth rates, and possibly an additional 3 million transported workers.⁷⁰

We may hypothesize about the population losses:

. Military casualties took the greatest toll in youthful, working-age population (e.g., 18-36).

- . Transported workers would be working-age males.
- . Lowered birth rates and disproportion of males and females in reproductive years would create a long-term imbalance in the general education and factory training enrollments and for employment thereafter.
- . Civilian casualties probably followed the abilities of the particular age-groups to protect themselves in times of deprivation (e.g., first children, then women, males of older years, youth, and men).
- . Population losses were geographically concentrated in the Ukraine; proportionately high losses occurred in the Baltic countries, Belorussia, and Moldavia (as these were occupied for the longest period), and in the Russian Republic where there was especially heavy military action.

Conclusions

The implications of the war for education are inextricably linked to those for the labor supply. Military casualties and civilian losses reduced the numbers of persons available for industrial employment in the reconstruction period, depleted the numbers in education, lowered the average education and experience levels, pressured authorities toward an expanded education and training network in compensation for the losses, and created a demographic imbalance which affected long-term economic growth.

While it is a truism that the war produced devastating losses in Soviet education in the short-term, it may also be stated that the war facilitated a long-promised geographic expansion of education.

Rural education and training for industrial employment were fostered by the relocation of industrial and educational personnel beyond the reach of the enemy. Significantly, agricultural training (neglected in the pre-war period in comparison with industrial training) received much attention during the war and contributed to post-war recovery.

Population losses and changes in the structure of the Soviet population were important consequences of war. The implications for education were not expected, possibly due to the fact that until about 1944, the Soviet Union did not know the extent to which civilian populations in the occupied areas had suffered casualties.

The war caused the Soviet Union, as other countries, to take on new areas of scientific and technological research and development and to become increasingly aware of major advances in other countries. In particular, boosts to post-war chemicals and energy development were due to war-time exploration for petroleum supplies. Energy reserves discovered during the war and some related industrial development formed the basis for major post-war expansion. Engineering similarly received increased investment, especially in academic resources, due to military requirements. For example, development of aeronautics equipment which would compete favorably with that in the West stimulated growth of an important industrial sector. Indigenous research and development was only one aspect of benefits to Soviet academic life. Post-war absorption of German industrial techniques, including sophisticated nuclear and synthetic fuels research, caused the Soviet academics to branch into new fields.

For technical and general education, the war left great losses. It was not only the shrinkage of personnel, but also the destruction

of infrastructure which required massive new capital investment. The war caused Soviet educators to focus on the need for a system of coordinated technical training and eventual placement of graduates in employment. The State Labor Reserve system served as a model, since it was regarded as especially successful in this regard. The Labor Reserve regulations also reiterated a new element in Soviet education -- who is educated pays for the education with compulsory employment, fees, or both.

In general education, a combination of fees and mandatory periods of post-graduation employment at assigned locations were matched in the Labor Reserve by extended periods of mandatory employment, although the training itself was without cost to the student. It was perhaps the compulsory work requirement associated with the Labor Reserve which caused industry to continue training most new workers. Nonetheless, the relatively easy mobilization of youth into the Labor Reserve (even though it was achieved under war-time conditions) appealed to many Soviet leaders. However, the basic problems with labor training in qualitative and quantitative terms was not resolved by the existence of the Labor Reserve, while war-generated population losses created critical needs for post-war education reforms which specifically addressed job training.

Footnotes to Part IV

1. W.M. Matthews, Youth Employment in the USSR, 1946-1958, Ph.D dissertation, Oxford University, 1961, p. 23 said that after 1942, youth from the age of 12 were required to work 50 labor days, In addition, there was a mandatory 20% overtime, as required by management.
2. Vedomosti verkhovnogo soveta SSSR, 26 June 1940, no. 20 and no. 28 (for industrial employment). Vedomosti ... hereinafter cited as Vedomosti, unless otherwise specified. Cited in Sbornik zakonov prezidiuma verkhovnogo soveta SSSR, 1938-1952gg, Moscow 1959. D. Zhimerin, Economy of the Soviet Union, Moscow 1958, p. 10. A labor day is an accounting term for measuring time spent on tasks associated with agriculture. A labor day unit varied according to age, sex, and duty, and it may not equal eight hours. Payments to kolkhoz workers were based on such contributions to the total activity of the farm.
3. Sobranie postanovlenii SSSR, 1938, no. 58, art. 329 required labor books for all employees and workers. From 1939, urban workers were subjected to increasingly strict regulation, but in June 1940, most worker's rights were summarily terminated (Vedomosti, 1940, no. 20). A further decree in October 1940, mobilized industrial workers (Vedomosti, 1940, no. 42).
4. V. Trembl, The Development of the Soviet Economy, New York: Praeger, 1968, p. 173; and Matthews, op cit, p. 186.
5. Vedomosti, 1942, no. 2, and 1942, no. 6.
6. Zhimerin, op cit, pp. 33-34 said that the plan called for a 15.7% increase in annual industrial production (heavy industry), 11.5% in light industry, and massive industrial construction. Six million is calculated as 21% of 30.3 million civilian employees in non-agricultural organizations. Base data from R.H. Moorstein and R.P. Powell, Soviet Capital Stock, 1928-1952, Homewood, IL: R.D. Irwin, 1966, table Q-1.
7. J. Stalin, Problems of Leninism, Moscow 1947, p. 618.
8. R. Schlesinger, The Family in the USSR, London: Routledge and Kegan Paul, 1949, pp. 19-22 indicated that while overall participation by women in the 1940 labor force was 38% of all workers and employees (slightly less among professionals) the trend was toward non-industrial occupations. The participation rate among women in full-time programs was very high in education, health, and social sciences.
9. Matthews, op cit, p. 125.
10. M. Feshbach, The Structure of Supply and Demand for Manpower in the USSR, 1950-1980, Ph.D. dissertation, The American University, 1974, p. 174.

11. A.S. Kahl, Labor Practice in the Soviet Union, Washington, DC: US Department of Labor, July 1964, p. 16.
12. G. Bereday, The Changing Soviet School, Cambridge, MA: The Riverside Press, 1960, p. 157.
13. The differences between Matthews and Moorstein and Powell's data may be significant as the latter would indicate a much faster rate of demobilization occurred. In the next chapter, the relationship of demobilization to economic rehabilitation is mentioned.
14. Matthews, op cit, p. 248.
15. Narodnoe khozyaistvo SSSR v 1956g, Moscow 1957, pp. 246, 250-253.
16. Ibid.
17. Sobranie zakonov, 1940, no. 25, arts. 602 and 603.
18. Ocherki istorii profesionalno-tekhnicheskogo obrazovaniya v SSSR, Moscow 1981, pp. 216-229.
19. A. Korol, Soviet Education for Science and Technology, Cambridge, MA: MIT Press, 1957, p. 13; and Narodnoe khozyaistvo, op cit, p. 216.
20. V. Gsovski, Soviet Civil Law, Ann Arbor, MI: University of Michigan Law School, 1949, p. 147. On 22 August 1943, ten Suvorov schools were established, having an average capacity of 500 students each.
21. S.T. Stymov, Ocherki o vzaimosvyazi narodnogo obrazovaniya v narodnom khozyaistve v SSSR (1917-1967), Tomsk, 1968, p. 95.
22. Matthews, op cit, p. 148A.
23. See reference 17 above.
24. S. Schwartz, Labor in the Soviet Union, London: Cresset Press, 1953, p. 78.
25. Matthews, op cit, p. 241.
26. Ibid, p. 249.
27. S.M. Movshovich, Vysshaya shkola -- osnovnye postanovleniya, prikazy i instruktsii, Moscow 1948, p. 65. Note that nearly 50 pedagogical institutes were exempted from tuition fees. This was possibly a reason for the high levels of enrollments in pedagogical programs during the war.

28. A.D. Redding, USSR Industrial Employment and its Distribution, Washington, DC: Council for Economic and Industry Research, 1955, has the following information on average incomes in various economic sectors. In the first place, the data indicate that wages in the education sector seemed to be competitive to those in other economic areas. In the second place, changes in the income levels were not significant in education but were for other sectors by 1941, indicating that pressures for sustaining labor supplies played a part in the wages paid once the military conscription program was underway.

	1940	1941
All national economy (average) ¹	4,070	4,320
of which		
industry	4,050	4,990
construction	4,210	4,230
education	4,200	4,330
state farms/MTS	3,370	3,440
public eating	2,820	2,870

1. Average annual wages in rubles.

29. Korol, op cit., p. 175. Prior to the war, 90-95% of higher education students received some state support.
30. Calculated as 2.4 million times 150 rubles for secondary education and .6 million times 300 rubles for higher education in 1940/1941 academic year.
31. Bereday, op cit., chapter 4.
32. Shtymov, op cit., p. 94.
33. A. Werth, Russia at War, London: Pan Books, 1964, chapter 1.
34. Ibid, p. 40.
35. Narodnoe obrazovanie v SSSR, sbornik dokumentov, 1917-1973gg, Moscow 1974, p. 490.
36. Ibid, p. 120.
37. Ibid, pp. 389-391.
38. Ibid, pp. 391-393.
39. Ibid, p. 177.
40. E. Medynsky, Public Education in the USSR, Moscow 1954, p. 90.
41. Op cit., p. 178.

42. Narodnoe obrazovanie, 1974, op cit, pp. 116-117.
43. J.E. Bowen, A. Makarenko and the Development of Soviet Education, Ph.D. dissertation, University of Illinois, 1960, pp. 41, et seq.
44. Narodnoe obrazovanie, 1974, op cit, pp. 182-184.
45. Narisi istorii shkoli v ukrainskoi RSR, 1917-1965, Kiev 1966, p. 167.
46. Korol, op cit, p. 301, indicated that the salary ranges for higher education was between 8,400 and 14,400 rubles per annum with differentials according to rank and other factors. For teachers, it was between 5,600 and 10,100 rubles per annum in 1944. This was a substantial increase from the rate of 389 rubles per year in 1924/25, or the 3,422 rubles per annum in 1936/37, or the 4,300 rubles in 1940/41, as per Redding, op cit.
47. Sovetskaya pedagogika, no. 5, 1984, p. 91.
48. Narodnoe khozyaistvo SSSR v 1956g, Moscow 1957, p. 244, and the Yearbook of Education, 1948, London: Evans Brothers, 1948.
49. Narisi istorii, op cit, p. 169.
50. Narodnoe obrazovanie, 1974, op cit, pp. 449-463 for a history of legislation regarding teacher qualifications and remuneration. The 1943 law is on p. 463.
51. Sovetskaya pedagogika, no. 5, 1984, pp. 91-96.
52. Ibid. The article mentioned that 60% of the group leaders were without higher education, implying that the programs failed due to this factor.
53. Yearbook of Education, op cit.
54. Bereday, op cit, p. 260.
55. Korol, op cit, p. 116, indicated that in 1943 the Committee on Higher Education was instructed to plan for greater numbers of university admissions and for placement of university graduates. Graduated would have two years of compulsory work in the field in which they studies according to the 1944 decree.
56. DeWitt, Education and Professional Manpower in the Soviet Union, Washington, DC: National Science Foundation, 1961, pp. 636-637.
57. Vedomosti, 1940, no. 28.
58. E. Stanley, Regional Distribution of Soviet Industrial Manpower, 1940-1960, New York: Praeger, 1968, chapters 1 and 2.

59. R. Clarke, Soviet Economic Facts, 1917-1970, London: The MacMillan Press, 1974, p. 23 has shown that the number of women in the Soviet labor force was 39% in 1940 and 56% in 1945, excluding women in agricultural work on the kolkhoz and women in private employment. See also R. Schlesinger, The Family in the USSR, op cit, pp. 286-289.
- 59(a) Trud v SSSR, Moscow 1936, pp. 75-76.
60. Cited in Matthews, op cit, p. 15.
61. Ibid, pp. 16-17.
62. J. Millar, "Financing the Soviet Effort in World War II," Soviet Studies, vol. 32, no. 1, January 1980, pp. 106-123 used slightly different figures. In the first six months, German forces occupied territory with 40% of the population, 32% of the labor force of all State enterprises, and 33% of fixed capital assets of state enterprises. Thus, by 1941, the Soviet economy was reduced by one-third. Data in text are from Stanley, op cit, chapter 5.
63. T. ~~Dunmore~~, The Stalinist Command Economy, New York: St. Martin's Press, 1980, p. 30. F. Lorimer, Population of the Soviet Union, Geneva, League of Nations, 1946, pp. 195-197 indicated that according to German and Soviet sources, evacuees to the East (e.g., adult workers, military, and the like) were estimated to be between 7 and 15 million. Apparently, however, this large number of evacuees did not take into account the women and students who were also evacuated, but was based on some estimate of possible passenger miles and included military personnel.
64. Werth, op cit, pp. 208-214.
65. DeWitt, op cit, pp. 636-638.
66. Soviet Education, vol. 24, no. 10, August 1984, p. 20.
67. Narisi istorii, op cit, p. 169.
68. Yearbook of Education, op cit, Registration of displaced persons took place in each of the countries subjected to war. However, in the USSR, the 1942 law required registration only of orphans up to the age of 14 in efforts to allow parents and other relatives to find them. The 1942 law is found in Narodnoe obrazovanie, 1974, op cit, p. 355.
69. Narisi istorii, op cit, p. 179-180 noted problems for secondary education, while E. Medynsky, Education in the USSR, London: Soviet News, 1950, indicated that war damage was for 82,000 schools of the pre-war total of 171,579 and affected 15 million of the 31.5 million 1939 enrollments. In higher education, Medynsky reported that 334 institutions of the 750 pre-war totals were destroyed.
70. A. Sauvy, "La Population de l'union Soviétique," Population, no. 10-11, 1960, pp. 461-480.

Part V

Soviet Education, 1946-1958

Introduction

In the period after the Second World War, Soviet education authorities faced the necessary task of reconstructing the network of schools and education infrastructure. The war left in its wake a devastated country which included huge population losses, extensive industrial destruction, and great uncertainty about the order of social and economic priorities. The post-war educationalists inherited a system of Soviet education which had been developed over twenty years, a semi-literate population, and the drive for renewal of the education process.

New conditions pertained which generated a vigorous movement within education and from political and economic leaders for strengthened ties between education and economic goals. The economic priorities of the immediate post-war period were reconstruction of heavy industry, geographically broadened development, and rehabilitation of agriculture and housing in western regions of the country. Integrating into the Soviet system populations which had been annexed before the war was also necessary.

Accomplishing these tasks required manpower. Population losses, however, were extensive in the age-groups which normally formed cadres. The Soviet Union built its labor force in the post-war period by demobilizing the armed forces and by relying on the continued participation of women and youth in employment. This manpower strategy was very important in the short-term, but had limitations. Only so many could be demobilized; women would

participate in a limited number of employment settings and were not mobile; and youth required various types of education/training which had been suspended by war.

Manpower shortages could be handled in several ways. These included drawing additional persons into the labor force, raising the productivity of plant and labor, introducing new technology, and reducing the time between leaving education and training programs and efficiency at the work place. Implementation of these options was constrained by government's need to address consumer demands in the face of great shortages and high expectations of improved standards of living. In the Soviet context, education had emerged as the link among these options and as a considerable factor for consumer satisfaction. Educators, as well as government and Party leaders, returned to the notion that some combination of academic study with ^{Job}_^skills training should form the basis of the education system.

The political and economic leadership within the Soviet Union sustained several changes during these years. Stalin initiated a purge in the 1940s of the economic leadership which had strongly supported the State Labor Reserve program and specialized technical studies. A new leadership coalition was formed after Stalin's death which might have continued these initiatives, but lost political control before education, labor training, and manpower strategies were devised. Khrushchev's rise to power in the mid-1950s represented a commitment by the Soviet government for consideration of consumer issues. Shifts in leadership and resultant policies did not fundamentally alter the need for changes in Soviet

education.

Changes in Soviet education policies were usually preceded by a series of legal and organizational reforms of limited scope. The changes resulted from experiments which were conducted in education and training settings. Extensive experimentation was also coupled with revisions to labor laws and practices. To some extent, however, the experiments reflected a general hesitation for disrupting the existing education process -- even with its obvious deficiencies.

Khrushchev used the education system and labor conditions as a means for consolidating his leadership, and his government was eventually identified with the potential for reforms to resolve manpower difficulties. Khrushchev also pursued reforms as a part of the de-Stalinization program. The new leadership publicised a return to Leninist priorities and to revolutionary ideals, and that government was equally as concerned with issues of social reorganization as it was with strictly economic performance. Thus, it was thought that reorganizing education toward increased participation of the working class in the system of higher education would speed up the process of achieving social equality and the transition to communism.

This chapter discusses a series of matters preceding the reorganization undertaken from 1958. The issues include manpower options, political-ideological factors, the concept of polytechnical education, and development of the education networks prior to the reforms. The discussion briefly touches on changes in economic policies and organization and labor laws which influenced ultimate choices of education policy. The debates which immediately preceded

the 1958 reforms are also brought out, as well as the reforms themselves.

Manpower for Industry and Agriculture

From the end of the war, it appeared that the economic priorities of the pre-war period would continue as the basis of the economic program. High levels of economic performance, coupled with an emphasis on heavy industry and construction of new, geographically expanded, productive capacity, were the major characteristics of the strategy. Just as the goals were stated, it was obvious that post-war conditions could only support high levels of economic performance within limited goals. Reconstruction of industry, agriculture, and social infrastructure were badly needed. In particular, concerns were expressed that the anticipated rates of economic performance could not be met with the existing labor force.

Characteristics of the Labor Force. Problems with the labor supply emerged in the post-war period as an objective condition, and received much attention during the 1950s. The set of problems could not be reversed: the war left a huge dent in the structure of the population. Massive losses had been incurred by males between the ages of 18 and 35 -- those normally expected to form cadres.

The total population of the Soviet Union has been calculated at 173 million in 1945, but there were further losses due to the after-effects of war and economic priorities.¹ In qualitative terms, it is known that substantial population losses were sustained between 1945 and 1947, as famine was widespread in the countryside. Famine meant that, in addition to delayed economic recovery due to the loss of lives from starvation and related

diseases, there were also very high levels of infant mortality and reduced numbers of births, with attendant implications for long-term labor resources. Minor territorial adjustments took place in 1946, returning land and 1.4 million residents to Poland. Official estimates of the 1950 population, including the Baltic states stand at 178.5 million.²

Labor force participation increased steadily from the beginning of the Five Year Plan, from an estimated 51.6 million in 1928 to 79.6 million in 1940. While data are not available from official sources regarding the level of decline in the urban and rural labor forces during the war period, Moorstein and Powell estimated that by 1945, 74.6 million persons were working, or slightly under the number in 1940. Data tell us also that between 1945 and 1948, the numbers employed in the economy fell precipitously, recovering to slightly above the 1940 levels by 1950 or to an estimated 80.7 million.³

Who were these persons and how were they distributed in the economy? For industrial employment, the Moorstein and Powell series show that in 1945 there were 30.3 million workers and employees, 33.8 million agricultural workers, and another 10.5 million in the military services. The distribution of manpower shifted among these sectors between 1945 and 1950, reversing the pre-war claims of the agricultural sector for the greatest number of workers. By 1950, 42.2 million worked in industry and 40 million in agriculture.⁴ Moreover, the gap widened between the two sectors, so that by 1959, there were about 17 million more industrial workers than in agriculture.⁵ The military, it is noted, were rapidly demobilized.⁶

Soviet manpower resources are usually calculated from the numbers of persons aged 16 to 59 (for men) and 16-54 (for women). Variations in actual labor force were common through the years, as retirements were delayed, for instance, or as youth entered employment. Roughly calculated, in 1939 approximately 50% of the population were excluded from labor by reason of age. If, then, there were an estimated 72 million actively employed in that year, labor force participation was about 75% of the 102 million constituting the resource base. This was a very high level of participation, indeed.⁷ It meant that in 1939 labor force participation by females was very important, but it may have meant also that many youth below the age of 16 were working. This would offset any reductions due to disability to the numbers of persons eligible for employment by reason of age.

In 1959, by way of contrast, about 54% or 119.8 million of the 208.8 million population were of working age. If, then, 101.4 million worked, labor force participation was about 83%. Such a participation rate compares favorably with that calculated by J. Newth, for instance, who indicated that 71% of persons between 16-69 worked. Excluding the persons who were over age 59, his data yielded a participation rate of nearly 80%.⁸ Again, this does not exclude youth and persons eligible for retirement.

How many workers did Soviet planners indicate were required for meeting economic goals? In the fourth plan period, of course, there is little indication of actual labor requirements in the literature. We know that a dominant concern of the period was improving the skills of those already employed. Labor increments for all sectors were achieved by demobilizing the military. The

fifth plan called for a total increase to the labor force of 1.2 million per annum.⁹ This was about 50% of the expected rate of growth of the adult population. The sixth plan called for an increase of 1.3 million per annum.¹⁰

In the literature of the period, two approaches to forming labor cadres appear to dominate: increased participation in the work force of persons of working years and increased productivity on a per capita basis. Greater participation in the work force might have been achieved by:

- . demobilizing the military.
- . reducing the size of government bureaucracy.
- . increasing the rate at which women entered and remained in employment.
- . encouraging retirees or persons about to retire to remain in employment on a full-time or part-time basis.
- . encouraging rural workers to enter the urban/industrial labor force.
- . directing youth to early employment.

Demobilization of the Armed Services. Reducing the size of the military was the first option and it was pursued from 1945, when 10.5 million service personnel were reduced to slightly under 3.0 million troops by 1948. In 1950, however, the size of the Soviet forces was increased to 4.0 million and was maintained at slightly under 4.0 million.¹¹ N. Jasny considered this level of military conscription in peace-time detrimental to the formation of needed industrial cadres, as it exacerbated problems of low birth rates ^{the 1930s and} from the war period.¹² If, on the other hand, special efforts were

taken for demobilizing post-war military according to education and skills, and for assigning veterans to employment, the relative success of these efforts has not been explored.

Reducing Government Bureaucracy. As a second alternative, non-industrial, non-agricultural state employment could have been curtailed to bring administrative and military employees into the industrial workforce. This option had long-term implications for governmental and economic organization. Lacking a comprehensive program for restructuring bureaucracy, this was not an immediately feasible option. It is possible that even had such a reorganization scheme been available in the fourth plan period, the numbers of workers released would have been unsubstantial. This option was pursued, however, as part of the Khrushchev program for decentralization of economic management. Such workers formed a high quality resource in comparison to the general standard of industrial workers, which was 4 years of primary schooling in 1952.¹³ According to a RAND report, approximately 7.4 million persons were in the category of "administrative and community services personnel" in 1940. That number included 2.9 million education and 1.6 million public health workers. Other data show that government administration was an expanding area of employment in the fourth plan period;¹⁴ but according to M. Feshbach, an American demographer, policy shifts caused the numbers to fall by over 25% (from 1.8 million to 1.3 million) between 1950 and 1958.^{14a}

Women and Employment. Employment of women in industry and agriculture assumed critical importance during the war and certain sectors of professional employment were traditionally dominated by women. The Soviet Union had long involved women in low-skills

occupations and agriculture, and in education and public health. The war facilitated entry of proportionately large numbers of women into scientific and engineering studies, creating a compensatory factor for war losses in a highly educated labor pool.

Labor force participation by women was over 50% for all women aged 16-55 by 1950.¹⁵ Increased employment levels, said A. McAuley, might have been possible, but probably not in the "prime working and childbearing years" where his data show employment rates were much higher than national averages.¹⁶ Raising productivity levels committed the Soviet leaders to a program of educating and training women in different types of occupations and developing a network of child-care facilities. Of the two problems, the provision of nursery schools and kindergartens received much attention during Khrushchev's tenure. Lack of such programs forced women to remain at home or (conversely) lowered birth rates as women entered employment.

In many areas where participation of women was infrequent, E. Manevich observed that the situation resulted from lack of desirable or suitable employment.¹⁷ Lack of job opportunities was common, for instance, in one-industry towns. The situation was complicated by labor regulations which precluded hiring women for especially strenuous or high risk jobs. Resolving the problem came head-on against the investment policies of the post-war governments. During these years, much new industrial capacity was in areas located near to raw materials (e.g., in the east). To resolve the issue of women's employment in such circumstances, it was necessary to develop diversified industrial centers. Moreover, despite laws prohibiting

hiring women for such settings as underground mining, nightwork, and heavy labor, it was not an issue of simply proscribing such work, but finding substitute workers for the women who had taken the jobs during the war. Khrushchev noted that the problem of women and youth in proscribed occupations still existed as late as 1957, and he supported terminating such employment.¹⁸

Retired Persons. A further option was in encouraging retirees or persons eligible for retirement to return to or to remain in the work force. It was an option having obvious near-term limitations. This was an important resource, nonetheless, as such individuals required no additional training and could be expected to have relatively high levels of productivity. Unlike other manpower sectors and in the absence of changes to the retirement age, retention of persons eligible for retirement relied on incentives to work. About 2 million persons became eligible for retirement each year during the 1950s. Of these, it is thought that up to one-third continued in employment. Pensions were low and many elected to work for financial reasons. Kolkhozniki did not receive pensions, so that their retirement was dependent on family support or that of the collective farm. Generally, retirement data refer to non-agricultural, civilian employees and wage-earners in manufacturing and government service.¹⁹

Part-Time Employment. It is possible to require or to encourage individuals to assume part-time work in addition to their regular duties. Mandatory labor is required under Soviet labor law in periods of national emergency. Post-war reconstruction of housing, schools, agriculture, and many social services depended heavily on "voluntary labor contributions" and redirection of personnel to such tasks.

Additional labor was not a reasonable proposition for many. While the law stipulated in 1940 that the work day was 8 hours, 6 days per week, it has been calculated that the average in the post-war period was 8.5 hours per day or greater.²⁰ This remained the case until the 1950s when efforts were undertaken to ease the employment condition with a five-day work week and fewer hours of work obligation.²¹ Khrushchev's program for labor reform was only gradually implemented. In academic life, multiple posts were the rule at higher educational levels due to personnel shortages, and there was not relief in sight throughout the decade.²²

Transfer of Rural Workers to Industry. The economic program of the post-war Stalinist period emphasized industrial investment.²³ Government's position was that agriculture could recover without extensive public support, drawing on private capital accumulated during the war years. Several factors precluded the rapid recovery of agriculture:

- . famine in the countryside due to poor planting, reduced acreage under cultivation, and increased levels of commodity acquisition by government;

- . low levels of technology availability, lack of maintenance and replacement of equipment in the pre-war period (which together eroded the technological base for farming); and

- . shifts in agricultural manpower from a male-dominated workforce to one dependent on women.

Governmental policies which drew on rural populations for industrial workers had to compensate for these factors. Moreover, the local soviets had the right (a) of veto over applications by

kolkhozniki for visas to leave the farms and (b) for selecting those entering the Labor Reserve.. Between 1946 and 1950, data show that over 70% of the 3.4 million Labor Reserve intakes were drawn from rural areas, but that fewer than .5 million were trained for MTS cadres.²⁴ Central authorities allowed some increments to rural employment until 1950 -- a temporary six million growth which was offset between 1951 and 1954 by reductions totalling 3 million.²⁵ From 1955, agricultural employment was held at 40 million (or approximately the 1940 level for agricultural employment).²⁶ In effect, therefore, the natural increases to adult rural population were siphoned away to industrial and other employment sectors.

Youth Employment. Finally, an important alternative was in directing youth to early employment. In the period up to 1950, it may be expected that very large numbers of youth were employed. Government programs attempted maximizing the efficiency of employed persons by directing them to training programs. Labor Reserve recruitment expanded to supply cadres for projects of national priority. However, while legal restrictions on youth employment were relaxed during the war, these were gradually strengthened in the fourth plan period. From 1944, youth under the age of 16 years and normally expected to attend school were allowed to work 4 hours per day, plus an hour of over-time.²⁷ In 1956, labor laws restricted employment of children below the age of 15 years (outside agriculture) and prohibited over-time.²⁸ In the early post-war period, national education goals required seven years of education. However, complete secondary studies of ten years duration were obligatory for urban areas from 1950, so that

directing youth to work was confronted with considerable obstacles.²⁹

In the second instance, Labor Reserve training was regarded as an effective way of mobilizing youth to priority industrial areas and of offering job training to semi-skilled labor standard. The fourth plan required 4.5 million youth to be trained by 1950.³⁰ The fifth plan was similarly ambitious. Throughout the 1950s, improvement in courses and broadened scope of training opportunities were important concerns. In particular, the standard of training for some programs was brought to skilled levels, while other programs were based on ten years of general education.

Many sought the educations and training which had been interrupted during the war. Keeping such persons in the labor force caused the authorities to offer part-time and correspondence courses, effectively creating parallel systems of education to the general school system. In the period up to the mid-1950s, considerable pressures were generated by the sheer numbers of over-aged persons who sought education. However, relative to formation of cadres, war-delayed educations emerged as a serious issue because many youth studied during years normally devoted to full-time employment. The corresponding expansion of education programs in these early post-war years created a precedent for greater numbers of youth to continue beyond the secondary level. Further, J. Newth showed that from the mid-1950s, birth rates, coupled with high ^{levels of} infant mortalities between 1942 and 1947, reduced the numbers of youth aged 15-16 to about 50% of normal.^{30a} The 1959 census showed a deficit of over 11 million in the age group 0-15 years, so that the deficit in unskilled labor would continue. Thus, no resolution to labor shortages was to be found in the population

unless redirection of youth to employment was exercised as an option at the expense not only of higher education, but also secondary schooling.

Labor Productivity. From the 1930s, "labor productivity" was a key term for industrial managers and economic planners. In each of the pre-war five year plans and in the post-war Khrushchev program, substantial increments to economic growth were dependent on increased per capita output. This was not a simple solution and the term masks a number of complex issues such as assessing the geographic distribution of labor and rationalizing the labor pattern, streamlining employment practices and applying strict qualifications for hiring personnel, increasing the levels of mechanization and technology, and restructuring the organization of production within the enterprise.

Information on which to base many necessary decisions was not available in the 1950s. Stalin had promoted policies which eliminated much research from which to formulate employee-management ratios and expansion of related training and education. In the 1930s, the Commissariat of Labor was abolished. This eliminated research in such areas as demography, the scientific organization of labor and its administration, information on employment practices, and the utilization of labor resources, and it precluded resolution of the manpower issue by such manipulations.³¹ Both Stalin and Khrushchev preferred investment in new development schemes, so that prospects for rapid improvement in the general level of mechanization were correspondingly reduced.

In compensation, the education system was used as an instrument for regulating labor supplies to industry. The use

of the education systems for this purpose (largely by economic ministries whose responsibilities for specialized education allowed them access to graduates) was inefficient. Managers continued recruiting workers directly from universities and technical schools, while some enterprises hoarded excessive workers in anticipation of difficulties in securing adequate staff.³² Reportedly, recruitment of workers by industry frequently led graduates to work outside their areas of academic qualification.

Education programs were confronted with difficulties in responding to employers. Placement of graduates tended to be with enterprises which sponsored pre-employment training. Since education programs were concentrated geographically, assignments to locations away from the education facility were difficult. Eventually, educators joined industrial managers in promoting regional expansion of the higher education system.³³

In 1948, Gosplan assumed formal responsibility for planning and allocating higher and specialized secondary graduates.³⁴ This left a substantial free labor market, as only a small portion of youth were assigned to posts through the Labor Reserve, the other institutionalized placement system. The majority of new employees received on-site training. During the 1950s, employment of youth was difficult because expanding mandatory general education to ten years reduced the labor pool of unskilled workers. Moreover, once industry got hold of the secondary graduates, it was often found that the student's technological acumen and technical skills were still very low.³⁵

The circumstances prompted renewed attention to the Soviet education system as it related to manpower formation. For higher

education, concerns were voiced about the geographic distribution of programs relative to the location of industry outside the urban centers. For general education, the issue was the link between education and job readiness. For the Labor Reserve, the breadth of the training, the types of programs, and the competence of the graduates were focal points of reforms. There were also longstanding difficulties with relevance of texts and the adequacy of teacher qualifications, physical plant, and equipment.

Feshbach discussed motivations for reforms in education in a slightly different way. He indicated that by the 1950s, Soviet planners realized that labor was no longer a "free commodity" -- that is, increased numerical scarcity, regional shortages, skills shortages, worker's preferences, and production bottlenecks had to be taken into account. The specifics of education became more important than previously had been the case.³⁶

In essence, the Soviet authorities had two choices and each involved significant change. The first option required extensive study of labor resources, utilization of labor, and other sensitive indicators of the efficiency of manpower utilization in the economy. It would involve restructuring industry according to a more detailed understanding of labor resources, appropriate levels of mechanization, technological modernization, and an equitable distribution of resources on a sectoral and regional basis. However, near-term labor constraints and production shortfalls were unlikely to be resolved in this way.

The second option would increase both labor force participation and per capita productivity. By turning to secondary students as the

remaining, largely untapped, sector of the manpower base, the numerical problem might be resolved. Raising the rate of labor force participation by students required restructuring the education experience for accommodating production training. It meant that there must be increased reliance on part-time and correspondence studies, selective eligibility criteria for each type of education/training program, and courses at higher standard. Higher labor productivity among new workers meant authorities must turn their attention to reducing time between employment and production work, and to establishing links more closely to the skills required in the labor setting. This option constituted a low-cost alternative within the bounds of political and ideological realities, and it allowed time for constructing a general economic organization which could make use of long-term manpower options.

Political and Ideological Factors

Investigations of potential reforms in Soviet education had to cope with certain realities. First, the system had to conform to the prevailing notion of "collective good", which refers to the set of social and economic priorities promoted by the sitting government. Second, the concept of collective good which prevailed under Stalin's leadership was not the same as that which seemed to have characterized the transitional Malenkov government or which was promoted by Khrushchev. Third, during the Khrushchev period, not only did the concept of collective good change, but the type of leadership which was espoused and the conditions for governmental decisionmaking were different.

The notion of collective good, as it pertained to education, seemed to achieve under Stalin's leadership only a tenuous status. Immediate economic priorities and goals dominated all decisionmaking, although rudimentary literacy -- achieved with minimal investment -- added to economic potential. Even in the post-war period, Stalin held on to the idea that all progress in the cultural, consumer, and education spheres must be spin-offs from investment in heavy industry.³⁷ Under Malenkov, the pressures generated by years of agricultural and socio-cultural mismanagement were still coupled with the instability of the Party in the face of war losses, post-war political purges, and the death of Stalin. Previous orientations for development of heavy industry at the expense of other sectors were complicated by an uneasy awareness that political stability had to be reinforced by attention to a broader spectrum of concerns.

Under Khrushchev, de-Stalinization and rationalization of economic priorities were the initial justification for precipitous policy changes. However, a convincing justification for later policy courses (including changes in education) was presented a movement toward communism from conditions of socialism and as a return to Leninist values.³⁸ Demands for expansion of the labor force and for development of intellectual supports for decentralized industry found another justification in the prevailing acceptance of revolutionary (as opposed to evolutionary) change.

There were certain areas of social and cultural policies which all three leaderships did not wish to infringe. Such policies were the explicit goals of universal secondary education and wider access to higher education. Under pressure to address economic difficulties,

a link was presumed between education and economic progress, even though the connection remained unsatisfactorily demonstrated, especially in regard to per capita productivity at various levels of educational attainment. Educators in the post-war period returned to the concept of polytechnical education as a bridge between intellectual development and application of knowledge. It was a sensitive point whether polytechnical education would itself abrogate the rights of youth for secondary education.

The problem facing post-war leadership was that the objective necessity for economic reform came up against the need for deciding the form and style of future Party involvement in governmental decisionmaking. It is believed that Malenkov's leadership would have continued the Stalinist mechanics of government, even though the policy choices were clearly different.³⁹ Khrushchev, on the other hand, supported collective leadership of the Party, decentralized economic decisionmaking, identification of the Party with economic performance, and a whole host of concepts concerning personal and political responsibilities.

There were strong political and ideological overtones along with economic considerations in the educational and social changes taken during Khrushchev's tenure. He was convincing in his belief that the country was evolving into communism, and he was fond of stating that no policy directive could get around the need for hard work to accomplish the transition.⁴⁰ He seemed to have embraced the notion that while governmental policies must address consumer needs, individuals had to share in the benefits, risks, and responsibilities associated with such priorities.

If creating a balance among political and ideological orientations with the economic realities of the period were the cornerstone of the Khrushchev reforms, this is well demonstrated by the parasite laws of the 1950s. Regional development of extractive industries had been achieved through the use of forced labor. Such labor options were not pursued during the de-Stalinization years. However, students, unemployed and waiting for opportunities for higher education in fields and locations of their choice, were deemed anti-social, non-productive dependents of society, and were made subject to state intervention.⁴¹ In justification for the new law, Khrushchev pointed to demands for labor and opportunities for education in regional establishments.⁴² By banning "parasitism", he pushed an unknown number of youth into early employment, others into regional development, and reiterated personal responsibilities to the State. Khrushchev also fostered a pool of forced labor in compensation for former cadres formed in this way.

Polytechnic Education in the Post-War Era

In the reconstruction years, renewed emphasis on polytechnical education provided an opportunity for planners and educators to reassess the contents of general education. Until 1950, most activities in education were devoted to reconstructing plant and achieving the general standard of seven years schooling. Parallel education and training systems compensated for gaps in technical competence among existing cadres. While the Labor Reserve, schools for working and peasant youth, special agricultural training, correspondence courses, and part-time higher education allowed

many to study, there were qualitative uncertainties concerning new graduates. Given that mandates for economic development were tied to increased labor productivity, which was dependent on workers' technical skills, such uncertainties were untenable.

Polytechnic education was largely a rhetorical concept at the end of the 1930s. Various systems purporting to be polytechnic in nature had failed or were deemed socially undesirable. For example, the system of school laboratories promoted in the 1930s had not succeeded due to cost, lack of coherent programs, and an insufficient number of trained instructors; and programs involving child labor were in conflict with child labor restrictions. Educators, under pressure from industry to produce graduates ready for work in factories, identified three areas for improvement: inculcation of collectivist spirit and purpose; familiarity with the basic vocabulary of technology; and development of practical illustrations of academic concepts.

The collectivist spirit and purpose of general education is also illustrated in discussions in the late 1940s and early 1950s of A.S. Makarenko's work. Through the period, educators pointed out that it is during childhood that values important to industry, defense, and society are assimilated. Such values could be strengthened by connecting general education to work situations, by bringing individuals into an awareness of his role in the collective (e.g., work environment), and by instituting discipline and regulations complementary to the goals of the collective. It was observed during the early 1950s debates on the ideological content of education that Makarenko was unable to establish a program which

satisfactorily integrated education with labor training.⁴³

Educators, even those supporters of Makarenko's technique of education within the modern setting, preferred an approach to polytechnic education which was not disruptive to the process of academic learning and which would be accomplished by means of practical illustrations of basic concepts and by exposure to technological vocabulary.⁴⁴ Some felt that academic training, based as it was on presentation of fundamental, abstract concepts in several disciplines, was incompatible with applied technology/labor training. From this perspective, illustrating academic studies with practical examples (e.g., discussions of electric power during the course on physics) was sufficient. Extra-curricular work, such as summer employment of senior secondary pupils, was the appropriate link to labor.⁴⁵

Alternative discussions of polytechnic education ranged from arguments for special technology courses or applied sciences to those which simply produced skilled workers. In the first instance, the discussion was led by M.N. Skatkin, a member of the RSFSR Academy of Pedagogical Sciences. Skatkin supported the notion of a separate technology course.⁴⁶ The course would include such concepts as history of machine technology, technology of production, internal combustion, technologies associated with particular industries or energy production, the economics of industry, and industrial organization. Skatkin acknowledged problems with "internal logic" of previous courses and with establishing systematic progression through the grades. He claimed, however, that the objections to such a course would be resolved once problems of logic and method were resolved.⁴⁷

The steps Skatkin said were preconditions for developing polytechnic education were adopted during the 1950s. The fifth plan required polytechnic concepts to be introduced in secondary schools and for steps to be taken for expanding the concepts to all grade levels. In 1952, a Pravda article called for precise instructions on polytechnic education, and in 1953 Skatkin and Melnikov published a book on polytechnic education promoting the new approach to education.⁴⁸ In 1954 and 1955, there were changes in texts and curricula, experimental courses in technology, and use of laboratories and workshops within the science programs. Skatkin's concept required general education to be supplemented with special training after graduation. Instilling the labor ethic and teaching technological literacy were its sole purpose. Such a course was important in a country where the general standard of education in the workforce was not at seven years of general schooling.⁴⁹

Specialized theoretical training had achieved a considerable constituency, especially among planners and within industry. For example, the Labor Reserve could supply labor training in a variety of special areas, was theoretically adaptable to industrial needs at demand, and could mobilize large numbers of workers within short periods of time. Other specialized education programs (which were conducted on a part-time basis) did not interrupt production. The short-coming of purely specialized training was that theoretical grounding required industry to provide extensive retraining of workers when there were changes in technique or machinery. Presumably, however, retraining was less costly than extending the duration of general education.

How many individuals with all-round general and technical educations would be absorbed in the economy, and what was the trade-off in economic terms with reliance on retraining rather than general education at the outset? Such questions, requiring sophisticated understanding of manpower utilization, could not be answered in the 1950s. The Soviet leadership took the view until 1957 or so that polytechnical education (e.g., technical literacy) was preferable, especially from a social perspective. Stalin, for instance, said that polytechnical education "would free workers to choose their occupations and not to remain tied to a single job for life".⁵⁰ This general preference was tempered by reality -- the fourth and fifth economic plans envisaged strengthening specialized secondary programs and the Labor Reserve alongside the expanded general school network.⁵¹

From 1954, general reforms in Soviet education took particular care to emphasize that the polytechnical content of course-work would not reduce the academic nature of secondary education.⁵² This turned out not to be strictly true, as the reforms marginally increased hours in the upper grades for science and mathematics and reduced those for humanities.⁵³ The new curricula stressed within science and mathematics the practical applications of concepts, and it was largely for this reason that the reforms were justified as polytechnical.⁵⁴ Later, it was observed that rapid changes in curricula for polytechnical purposes were "destabilizing and created problems in the corresponding abilities of teachers for coping with the new materials".⁵⁵ While changes in pedagogical training were suggested, and indeed later implemented, the benefits could not be immediately

realized in the classroom.

Changes in the 1953 curricula for the general schools involved students in manual labor at the schools (grades 1-4), obligatory practical training in school workshops (grades 5-7), and compulsory practical work in agriculture, machine driving, and electronics (grades 8-10).⁵⁶ An article in Uchitelskaya gazeta said:

All these experiences will give the pupils an opportunity for systematic acquisition during their secondary program of the habits associated with manual work. It will give them certain technical skills useful in agriculture. It will acquaint the children with construction and handling of machine tools and the machines which are most commonly used in production (the lathe, the engine, the electric motor, automobiles, tractors, and the like). Additionally, it will teach them how to carry out simple electrical and radio assembly.⁵⁷

In 1955, senior pupils were to work in industrial settings, farms or the MTS.⁵⁸ This was a major policy deviation from the activities envisaged in Skatkin's 1947 article. There was no theoretical training associated with the practical work. Students were issued labor books, worked 6 hours per day, and production was calculated at adult norms reduced by 25%.⁵⁹ Student assignments of 40 days per year were common.⁶⁰ There is some indication, however, that in some areas there simply were no opportunities for placing students in local industry, so that implementation of the requirement was probably uneven.^{60a}

The course, "Principles of Production", recommended by Skatkin, was incorporated into the curriculum for polytechnical instruction from 1954. A 1955 article in Uchitelskaya gazeta, written by I.A. Kairov, the head of the RSFSR Academy of Pedagogical Sciences, clarified the situation:

The Academy of Pedagogical Sciences took part in working out the curricula for general schools within the Ministry of Education. In examining study plans and programs for secondary schools, we proceeded from the fact that the new curricula should be introduced gradually, without a sharp break in the existing system of training. Recently, we worked out a draft of new study plans which envisage the solution of a number of questions of future polytechnical training in the general schools. The study plans include a course on principles of production.⁶¹

Later in the article, Kairev outlined the tasks of the Academy for the subsequent period. Among them were checking on the new study plans and establishing the study programs and the system of knowledge and skills for studies in modern industry and agriculture. He said:

The third problem the Academy is about to consider is the organization and methods of polytechnical instruction. This problem includes working out such questions as methods of familiarizing students with the principles of technology in physics, chemistry, natural sciences, etc., and the principles of industrial organization and methods of working with students in the fifth to eighth grades in shops and gardens, and the organization and methods of production practice, and the pedagogical principles of socially-useful work by students.

If anything, the goals of the Academy and the introduction of summer employment of senior students pointed to diverging paths in education theory. The Kairev article was a certain indication that basic problems in determining the nature of polytechnical instruction still preoccupied leading theorists. Throughout the 1956 academic year, experiments were conducted in the Russian and Ukrainian schools testing new textbooks and study programs, which were different for rural and urban contexts.⁶² Even so, experiments were decidedly less than full commitment to polytechnical education. It is noteworthy that the courses mentioned by Kairev had shifted from the broad introductory course envisaged by Skatkin to one essentially concerned with the acquisition of practical skills.

At the time of the 20th Party Congress, the general instructions did not envisage more than "continued development" toward polytechnical education:

At the same time, the Congress noted serious deficiencies in the area of cultural programs. In the work of the schools, the greatest problem is the gulf between education and life, and the insufficient preparation of school graduates for practical endeavors. For the quickest realization of polytechnical instruction, it is necessary to introduce a new course, giving basic information about the questions of industrial and agricultural development, and to associate the student with work in enterprises, kolkhoz, and state farms through experiments in observation and in school workshops.⁶³

The ambiguity of these instructions was offset by the straightforwardness of Khrushchev's statement to the Congress:

The shortcoming of the school is that it is divorced from life. Graduates are not prepared for practical work. Progress toward polytechnical education is very slow. There is too much talk and too little action. We need new courses giving them fundamental knowledge of production and accustoming students to working. Curricula in the secondary school must be re-drawn to include greater specialisation.⁶⁴

Khrushchev's use of the term "greater specialisation" by secondary students signalled the beginning of a debate which lasted until the 1958-1959 school reforms. Essentially, the split was between academic/polytechnical literacy and technical specialisation/streaming in the senior secondary grades. To follow the debates in polytechnical education, it is useful to turn to the reforms in general and higher education which took place throughout the 1950s, and to discuss their practical implications for manpower planning.

Changes in Higher and General Education Policies

Little attention was paid to the qualitative features of education

in the pre-war period. The sheer magnitude of work required to create the legal and institutional framework for the system, build schools, and supply teaching materials and teachers absorbed the attention of policymakers. Reconstruction tasks nearly equalled the magnitude of pre-war efforts in constructing the system, but educators tended to presume that the system had sufficient momentum to effect revitalization. Educators and policymakers looked beyond the immediate reconstruction tasks to compensating through qualitative improvements for quantitative losses in manpower.

Efforts linking education more closely to economic priorities were justifications for:

- . reorganizing the institutional frameworks for higher and technical education.
- . developing parallel systems at similar educational levels;
- and
- . streamlining courses.

Reorganization of Higher Education. Efforts to upgrade higher and technical education began in 1946 with the creation of the USSR Ministry of Higher Education.⁶⁵ This was a period in which there was general governmental reorganization. The creation of the Ministry seemed to be an organizational improvement for purposes of accounting and accountability. In the years from 1947, there were important changes in higher education which seemed to be related to the fact that the Ministry competed with the economic ministries for resources, justifying its claims to financial and personnel resources on the basis of tangible contributions by education to economic development.

Justifications by higher education to resources emerged in several ways. Higher education had assumed the responsibilities for determining the numbers of places in universities, institutes and colleges, and for assigning graduates to post-graduation employment.⁶⁶ While this was not efficient relative to manpower planning per se, much less for allocating manpower, responding to the needs of industry for personnel led higher education to streamline its programs into broader disciplines, ostensibly to weed out irrelevant, duplicative, and outdated courses. It led also to a re-evaluation of the distribution of facilities and faculties according to a pattern of industrial development and to abolish tuition fees.

In relation to academic concentrations, articles appeared from the late 1940s which illustrate the pressures which forced the linkages between education and economic priorities. For example, in 1949, Z. Kaftanov, the USSR Minister of Higher Education, urged raised graduation requirements in the science fields. There was "too much theory and too little practical usefulness of the current programs".⁶⁷ In this regard, he also sought to improve economics training of engineering personnel, so that engineers would understand the economic advantages, as well as technical merits of projects under consideration.⁶⁸

In 1952, higher education was called on to "resolve problems of technical progress", a theme which was to be reiterated time and again in the 1950s.⁶⁹ Reforms in education curricula were effected during 1956, and an article in Vestnik vysshei shkoly made the following observations:

One of the basic shortcomings of the old curricula for a number of university fields was the fact that they essentially provided for the training of special-

ists with extremely narrow qualifications. In drawing up the curricula, insufficient consideration was given to the fact that university graduates must be ready for work... Thus, one of the most important problems solved by the new curricula is the creation of objective conditions for turning out specialists with broad qualifications, who have mastered the fundamentals of science, and who are prepared for work...

The new fields of study are based on combined disciplines which generally do not have specialisations. Fields requiring a total of 300-500 hours of study were planned in specialisations such as philosophy, physics, geology, prospecting, and geophysical prospecting methods... The new curricula allows room for elective courses.⁷⁰

Higher education was placed under great pressure for expanding geographically. This was especially difficult in the post-war period, as there were huge shortages of qualified personnel of all types. Centers for industrial development had emerged in Siberia, Kazakhstan, and the Urals, and these now desired the intellectual supports which research facilities and scientists associated with higher education offered to industry located in European parts of the country. In his speech to the 19th Party Congress, Malenkov observed that expansion of higher education geographically was needed so that industry in these regions could attract permanent cadres.

These were especially cogent reasons for expanding higher education and from 1954 efforts providing education and scientific facilities and faculties to eastern areas were given prominent attention in the press. At the outset of the expansion drive, course offerings were tied to fields of economic development in the location of the facility.⁷¹ Permanent higher education institutions appeared after the mid-1950s, and efforts attracting qualified scientists and researchers voluntarily away from the urban academic centers were justifications for investments in research facilities with advanced

technology which were also placed in outlying regions.⁷²

It was the demand for geographic expansion and the need for replacing war-time personnel losses which prompted the development of part-time and correspondence programs. Expanding these forms of education was a way to intensify use of existing faculties and for accommodating additional students. Such programs, on the other hand, catered to the wishes of many academics who wanted to remain in major urban centers. Thus, part-time education was usually linked to urban students, while the correspondence courses were offered to the rural or regionally-based personnel. From 1956, Khrushchev picked up the theme of decentralising higher education, and in a particularly pointed statement, he suggested that agricultural institutes should be relocated near to actual farms, in rural areas, and linked with agricultural production.⁷³ The more compelling reason for geographic expansion, however, may have been the need for raising academic competence of management cadres, especially the praktiki.⁷⁴ Higher education could then claim a significant contribution to increased productivity levels in industry, and to have had an important part in accomplishing economic targets.

The strength of the ties between education and economic priorities was strong, but the methods for accomplishing them were apparently tied to Khrushchev's rise to power. The USSR Ministry of Higher Education was subjected not only to economic pressures, but also to political realignments. In 1953, the Ministry was downgraded to a Main Administration on Higher Education, subject to the Ministry of Culture. According to DeWitt, this was accomplished for purely political reasons, as Khrushchev had the support of the Minister of

Culture in his bid for power.⁷⁵ This view is supported by a similar change in the status of the Labor Reserve, another of Khrushchev's preferred training vehicles, and during this period it also absorbed responsibility for mechanization of agriculture schools.⁷⁶ This suggests a possible motive was insulating the emphasis on technical training and expansion of education from other political concerns. The higher education apparatus emerged as the All-Union Ministry of Higher Education in 1954, and following the decentralization program was changed to the Union-Republic Ministry of Higher Education in 1955.⁷⁷

Khrushchev had plans for education which were clearly ideologically motivated. In 1956, he called for an admissions policy favoring those with prior production experience.⁷⁸ The policy was adopted slowly and unevenly. Problems emerged immediately with high failure and dropout rates.⁷⁹ Some programs initiated tutorials in compensation for inadequate preparation of worker-students, but the policy remained controversial.⁸⁰ In 1958, a statement reiterated the policy for preferential treatment of workers:

As in 1957, preference will be given to persons with two years of favorably rated practical work in industry, agriculture, or other branches of the economy, culture, or the armed services. Military veterans will be admitted on a non-competitive basis... Up to 80% of admissions will be on a non-competitive basis. 20% of positions will be reserved for new secondary graduates. Medalists and honor students of specialised education, who are in the top 5% of their graduating class, qualify for preferential treatment.⁸¹

This brings the discussion of higher education reforms to the point just prior to the 1958 reforms. Before presenting the reform package itself, which was linked to changes in secondary and other training areas, the discussion turns to changes in secondary education and labor training. Changes prior to the general school reforms

in 1958 seem to have sought to establish a balance among access to various career paths.

Changes in General Education. The keys to general education in the period 1945-1958 were expanded access and accommodation to the needs of the economy for manpower. Expansion of education was accomplished by reconstructing schools, removal of Stalinist-era policies which were barriers for some, and gradually lengthening the period of compulsory schooling. Reconciliation with manpower needs were sought through provision of specialised technical training through the Labor Reserve and specialised secondary schools, and incorporation of mandatory practical work by students, summer employment, and poly-technical instruction in the schools.

Reconstruction. Data are well known for the progress achieved by the Soviet government for re-establishing education in the post-war period. Enrollments in primary education (grades 1-4) were at 1940 levels by 1946. This was accomplished partly by including in enrollments a group of children previously excluded from primary schooling. From 1946, seven year-olds attended first grade. In addition, enrollments were strengthened by accommodating over-age youth whose educations had been delayed during war and by occupation. Rural primary education, however, never regained 1939 enrollment levels due to war losses, skewed sexual composition of the rural population, and migration toward urban centers. Junior secondary education (grades 5-7) reached pre-war levels by 1950, and general seven-year enrollments embraced the universe of age-eligibles by the mid-decade.⁸² Senior secondary enrollments attained the 1940 levels by 1951, but in so stating it must be noted that under 15% of

children aged 15-17 could have been enrolled, and the percentage is considerably reduced if one accounts for war-delayed educations.

Indeed, Bereday said that over-age students dominated secondary education between 1952 and 1955.⁸³ Students in specialised secondary programs attained 1940 enrollments by 1945, and exceeded enrollments in general secondary programs from 1946.

Reconstruction of physical plant followed a slightly different course than enrollments. Primary schools were provided without apparent difficulty. The numbers of schools accommodating grades 1-4 were at pre-war levels by 1946. This did not mean, however, that physical conditions were satisfactory but only that buildings were provided for sheltering the school programs. The numbers of buildings for grades 1-7 were at pre-war levels by 1948, while the upper secondary school facilities did not reach pre-war levels until 1952. One may presume that physical plant kept pace with primary school enrollments after 1946. DeWitt, for example, suggested that secondary education expansion was facilitated by declining elementary school enrollments.⁸⁴ Indeed, problems to provide physical plant were at first dependent on voluntary labor. Noah said that in the mid-1950s, the dependence on voluntary supports was complicated by relaxed requirements for labor-day contributions and disorganization in the construction industry.⁸⁵

Physical plant for junior levels increased rapidly after 1948, when the pre-war level was secured. From that point, national policy required compulsory seven-year education and spurred on building programs in urban areas, in particular. Facilities for ten-year education programs and upper secondary grades, specifically, presented

the greatest problem. The lack of facilities necessitated multiple shifts, and the situation was often mentioned in the press.⁸⁶ Relief of overcrowding in the schools was the purpose of 1958 restrictions on multiple shifts in _____ schools. In rural areas, Khrushchev cited insufficient attention by kolkhoz leaders to school construction responsibilities.

Quality of education is assured not only by enrollments and physical plant, but by the availability of teachers and their credentials. Needless to say, it may be anticipated that there were great losses sustained by teaching cadres during the war. Recovery in numbers of teachers on the aggregate for all levels of education was achieved by 1948, but the ratio of teachers to students improved steadily.⁸⁷

Generally, the standard for teacher education was established during the war, but the standard was not achieved as late as 1950.⁸⁸ The situation was complicated by changing education requirements and the availability of different types of education programs. In 1947, for instance, the pedagogical normal school (to complete secondary levels) was expanded to four years duration, accommodating instruction in native language training.⁸⁹ From 1948, efforts were made for raising the standard of teacher training to 10 years of general or specialized education, plus pedagogical training to an incomplete higher education.⁹⁰ Until 1958, the pedagogical institute (at complete university levels) was the preferred standard of education for primary and junior secondary teachers, while university qualifications were the attainment for upper secondary teaching.⁹¹ The specialized secondary program for teachers was phased out by the late

1950s, so that training in pedagogical institutes (ostensibly at the university standard) was the preferred credential for teachers of grades 1-7.⁹²

Regardless, both education credentials by teachers and their specific training was generally regarded as inadequate throughout the period.⁹³ This was exacerbated by introducing polytechnical instruction in 1952, after which there were frequent complaints that teachers were not adequately prepared to offer polytechnical instruction. From 1946, teachers relied heavily on the relatively weak systems of part-time and correspondence studies for upgrading their qualifications, and it is unclear if there were specific requirements in polytechnical techniques associated with their training.

De-Stalinization. There were two conditions of the Soviet school under the Stalinist leadership which constrained access to education. The first was the 1940 regulation creating tuition fees in secondary and higher education. D. Lane observed that the requirement for tuition payments was not uniformly applied after the war, and interpreted this as a move to gradually abolish the fees altogether.⁹⁴ The fee requirement, in fact, was removed in 1956.⁹⁵ On the other hand, the student stipends were raised considerably between 1945 and 1956, and tuition scholarships had become available so that the financial burden for most students was significantly less than the initial impact of the regulations. But the student stipends and other financial supports were available in amounts differentiated by the field of study, and for students in fields not designated as national economic priorities, fees remained at least a partial barrier to higher education until the 1956 changes. Further, in some cases,

there were taxes levied against scholarships and state stipends, as well as compulsory subscriptions to state loans.⁹⁶

The second factor constraining access to education was the continuing emphasis on expansion of urban rather than rural education. While this continued throughout the Khrushchev period, policy directives adopted at the 20th Party Congress emphasized the enforcement of mandatory education in the republics and among the minorities. Cultural traditions were strong barriers to education programs for girls, and physical distances from schools in other areas made voluntary compliance with law difficult. Inspections of schools, aimed at eradicating non-compliance with mandatory educational requirements, were built into a campaign in the second half of the 1950s. Typical observations, designed to generate pressures on local authorities, were such as the following editorial:

Everything has not been done to fulfill the national economic plan for the education of children. Many pupils do not attend school in Astrakhan, Ivanov, Kaluga, Tambov, and other provinces of the RSFSR. True, as a result of steps by local organizations, the situation has been somewhat corrected.

Universal education is in an extremely unsatisfactory state in Uzbekistan. The number of children enrolled is not much better in Azerbaidzhan... What is the matter? The main reason is that many school principals are resigned to children leaving school and are not sufficiently active in raising the problems of education before local organizations... Certain executive committees are incomprehensively liberal with regard to collective farm chairmen who refuse to send to school any child engaged in work on the kolkhoz.⁹⁷

Khrushchev's program also proposed a system of boarding schools to compensate for lack of secondary facilities in rural areas.⁹⁸ The system was proposed in the 1956 Party Congress as a means to ensure that there would be a way to relieve single parent families of the

burdens of supervising youth.⁹⁹ This suggestion was greeted with lukewarm enthusiasm. In particular, A. Shelepin, who spoke for the Komsomol at the Congress, said that boarding schools which offered polytechnical education would be important, providing they have sufficient, cheap, and interesting equipment, and that the manufacturing base in industry was sufficient for supporting continued material requirements.¹⁰⁰ Shelepin's comment went to the heart of the difficulty encountered by all education programs -- insufficient materials for the schools and a lack of willingness on the part of government or industry for developing necessary factories.

The Stalinist government had stressed development of urban education. This was partly the result of the demographic response to the industrial program. Investment in heavy industry was mainly in Western regions, and was not until the war that heavy as well as extractive industries were an investment priority in the east. Prior to the war, rural populations migrated to urban centers in very large numbers. It was necessary to develop urban education to serve industry, as the first priority. At upper levels, it was presumed that rural students who desired educations would relocate. During the war, evacuation of facilities, faculties, and students caused the temporary expansion of rural education. Most returned west after 1945.

Industrial development priorities changed during the Khrushchev leadership. First, reorganization of government placed burdens on regional authorities to attract qualified personnel. Second, the balance between investing in industry and agriculture shifted somewhat, and the relative importance of trained agricultural workers

increased. Third, industrial managers in outlying areas began seeking permanent, technically qualified cadres. The practice of relying on temporary personnel was no longer regarded as tenable by industry faced with additional productivity requirements, and it was "no longer in accordance with the correct placement of specialists in regions".¹⁰¹ While this observation had overtones of importance to nationality policies, it was treated as an objective problem of educational organization.

In this regard, V. Elyutin, the RSFSR Minister of Education, said:

The Central Committee pointed to grave shortcomings in training by economic regions, specializations, and excessive specializations. In the past four years, 40 higher education institutions have been organized in the regions, and there is a corresponding reduction in central cities to allow the increased enrollments in the east. Now, we must concentrate on production experience as well as general education.¹⁰²

The concern for the distribution of schools within the regions was echoed in Komsomolskaya pravda, and the lack of specializations among secondary graduates was noted. In particular, the articles called on correspondence and evening programs for offering training in new industrial fields.¹⁰³

Governmental response to these demands went through several stages. First, there was a period up to 1955 when it seemed that the greatest need was for skilled labor. First, from 1952, decrees aimed at upgrading the qualifications of MTS and other workers in agriculture, and a series of agricultural training programs were established.¹⁰⁴ Then, there was a 1954 decree for improving the distribution of higher education institutions and for better distributing graduates in their mandatory work assignments.¹⁰⁵

In the second instance, the 1954 order followed on the heels of a decision for decentralizing governmental decisionmaking, and satisfying the short-term needs of regional government for qualified personnel. Finally, there was attention to raising the educational levels of management praktiki and for training leaders of cadres recruited for Virgin Lands campaigns and other of the early Khrushchev development schemes.¹⁰⁶ In this regard, factory-sponsored part-time higher and secondary specialized education programs were common.

By the mid-1950s, most students attained a junior secondary education or some equivalent number of years of education and training through the Labor Reserve. However, still fewer than 50% of students progressed to upper secondary levels, so that the training burden on industry increased enormously. For example, between 1946 and 1958, the numbers of new workers who received on-the-job training were nearly 2.5 million per annum.¹⁰⁷ The numbers who were required to take courses to improve qualifications and to get new skills also grew -- from 3.2 million in 1946 to 4.4 million in 1958.¹⁰⁸ Additionally, the Labor Reserve graduated over 300,000 each year between 1951 and 1953, and nearly 700,000 thereafter until 1958. This reflected in part the increased emphasis on agricultural training.¹⁰⁹ Komsomol-sponsored campaigns in support of the Virgin Lands development also placed additional burdens on local industry as well as the Labor Reserve for training very large numbers of recruits.¹¹⁰

The fact that industry and technical training programs provided employment readiness for the majority of youth after the seventh

grade caused some policymakers to question the value of academic education beyond the junior secondary level. Nonetheless, even in 1956, there was no resolution to the question of the nature of polytechnic education and pressures for devising some sort of balance between practical skills and academic opportunities led to a choice of the former over general studies.

Upper secondary education enrollments steadily increased throughout the 1950s, even as diminishing prospects for growth in the labor force appeared. In the 1950s, the emphasis on specialized secondary enrollments weakened, surprisingly, and after 1955 general secondary education grew at a much faster pace. The graduates of specialized secondary programs, it is noted, had an immediate constituency for employment and the probability of a faster incorporation into productive labor. Taken together, technical training was a forceful counterweight to continued high levels of enrollments in general polytechnic education, where the emphasis as late as 1958 was academic training.

Reforms in Economic Management and Labor Law

The post-war governments issued development programs which depended significantly on increased levels of worker productivity, industrial output, lower per unit production costs, and expanded industrial plant. In general, the programs of the two post-Stalin governments included regional development coupled with raised levels of mechanisation and application of advanced technologies.¹¹¹ Investment in agriculture was not a priority of Stalin, but G. Malenkov's economic program included new attention to investment in farm equipment

manufacturing and changes in the agricultural tax laws. It was hoped that changes in the agricultural taxes would facilitate achievement of higher standards of living for rural workers without forcing price increases.¹¹² Malenkov's economic program was to be implemented through strictly centralized industrial and sectoral ministries, and a 1953 reform briefly amalgamated existing bureaucracies into a smaller number of very large administrations.¹¹³

The Khrushchev leadership initiated changes in the structure of economic organization and the laws governing the labor force. There was movement away from the highly centralized decisionmaking peculiar to the 1953 ministerial structures. The initial problems which Khrushchev's reforms attempted to address were conditions within agriculture, as the sector was in difficult circumstances from inadequate investment, poorly trained cadres, low commodity prices, and the extent of manual work. Reorganizations attempted to relieve the central authorities of many oversight functions which would be assumed by local and republican administrations.

Between 1954 and 1955, there were attempts to rationalize the use of natural and manpower resources and to streamline the material supply system for industry. In 1954, the first of a series of efforts was taken to decentralize economic planning.¹¹⁴ This first reorganization was undertaken with awareness that the decentralization would create new demands for management cadres -- cadres which were not immediately available. Khrushchev acknowledged the situation in a statement to the Supreme Soviet:

Breaking the central ministries into smaller units must be accomplished in such a way that the number

of employees in the new system will not exceed the number of personnel in the former ministries. There is likely to be opposition to this approach from the new ministries. We must approach the situation with care. In particular, we must increase the responsibilities for each official at all levels of plan fulfillment.¹¹⁵

In the process of separating economic planning functions, it was decided that existing personnel from both Gosplan and the central industrial ministries would follow the functions into the regional apparatus.¹¹⁶ Khrushchev viewed the opportunity to decentralize planning as a way of raising simultaneously the standard of industrial management. As a result, many administrators found themselves working on enterprise production problems.¹¹⁷ These decentralization decisions generated demands for highly trained managers, for personnel trained in the economics of their technical disciplines, and for improved regional educational and research facilities.

Pressures for developing educational and research programs as backup for industry were strengthened by similar demands from agriculture. It is not possible to state categorically that demands for training were more critical for the one sector than the other, but it is certain that the leadership recognized that the agricultural economy suffered from acute shortages of qualified managers. During this period, kolkhoz, MTS, and Party personnel were required to improve oversight and coordination of agriculture, and those personnel were encouraged to participate in programs for upgrading their technical skills.¹¹⁸

Numerous articles appeared in the Soviet press exhorting changes in the availability of specialist training. In one such discussion, Elyutin responded to the pressures, claiming that planning for manpower

and the required training programs was most difficult. While desirable ratios of specialists with higher education to those with lesser levels of training had been established (theoretical models) in the 1930s, projections of manpower requirements even over a five or six year span could not be developed from estimated short-term needs. Further, numbers of personnel required in industrial employment and the relevant pre-employment qualifications for identified slots remained uncertain. That uncertainty, Elyutin said, impeded the progress of educational expansion. He also noted the need for providing short programs to general secondary graduates¹¹⁹ which would turn generalists into technical specialists.

If decentralization created pressures for the educational system, changes in labor laws generated more. Rationalization of the wage structure according to work norms and industrial priorities was promised from 1955.¹²⁰ There were increases in wages, implemented by economic sector, over a period of several years. The uneven implementation of wage reforms produced additional instability in the labor market. When in 1956 restrictions on job changes were formally lifted, there were high levels of labor turnover and migration.¹²¹ Feshbach, for instance, noted that the turnover was calculated at 38% for industrial workers, but the estimate obscured higher incidences of labor turnover for some industrial sectors and regions.¹²² Voluntary labor turnover, of course, was limited to some extent by the numbers of jobs available in desirable situations (determined by wages, perks, and location), but the exodus from regional administrations and enterprises to urban centers clearly generated new pressures for training local populations for local

employment.¹²³ But the 1956 law allowed job switches not only between enterprises and geographically, but in occupations. This type of turnover, presumably significant at the time, would have intensified problems for planners in calculating appropriate expansion of education. Finally, changes in the hours of mandatory work obligation started in 1956.¹²⁴ Dewar quoted an article in Voprosy ekonomiki which estimated that a reduction from the 48 hour work week to the 42 hour work week (even implemented over a five year period) would yield 12.5% reduction in available labor. She went on to say that the plan for reducing the 48 hour week to 40 hours of work obligation would equal a 16.6% reduction to the labor supply over the seven year period of its implementation.¹²⁵

There is also reason for believing that increased pension levels for persons of retirement age may have encouraged many of the lower paid workers to take retirement rather than to continue in employment. Data in this regard are not plentiful. Of the approximately 2 million workers who became eligible for retirement each year, Feshbach indicated that one-third continued in the work force for some period of time.¹²⁷ D. Granick, an economist from the University of Wisconsin, indicated that between 24 and 29% of retirement-aged men and women continued working for up to five years.¹²⁸ Granick regarded this as a relatively low rate of participation for persons between the ages of 60 and 65, even though this apparently was a consistent figure for the 1950s. Fewer pensioners in the labor force would have caused immediate demand for additional skilled workers, with corresponding pressures for expansion of the labor training and education systems. There is no evidence that a major

change in the rate of pensioners exiting the labor force occurred in the 1950s, with the exception of the one time that there was a significant change in the pension level.

Massive economic reorganizations were announced in 1957. A. Nove cited the general reasons for reform in the structure of industrial management and planning as (a) the lack of effective responsibility for regional planning, (b) overly centralized industrial ministries which threatened to become empires, (c) inefficient use of resources and delays in decisions between center and field authorities, and (d) the size of the economy and anticipated growth rates.¹²⁹

The Khrushchev proposals for economic reform were published in early 1957. Three key points were made:¹³⁰

- . Reforms must rationally distribute personnel to promote leading positions in economic councils and planning agencies.
- . Reforms depended on development of heavy industry, labor productivity increments and expansion of the technical base.
- . Reforms would reflect the Leninist principle of decentralized government by filling leading posts with specialists and experienced production organizers.

The reforms which emerged in May 1957 created 105 economic regions for controlling industrial planning, management, and production within their boundaries and within general goals set by regional branches of Gosplan and coordinated at national levels.¹³¹ Several centrally located committees, attached to the Council of Ministers, provided administrative backup to the regions for purposes of industrial planning, research and design, but these central agencies did not direct regional economic decisionmaking.

Central Gosplan absorbed all the planning functions formerly held by the industrial ministries, material allocation functions, and continued the responsibilities for coordination of material balances, labor, wages, and investment.¹³² A committee was established later for providing information leading to wage and price reforms. This entity effectively set the parameters of the labor condition, so that very little flexibility was left to regional management.¹³³

The 1957 reforms were implemented under conditions of constrained labor resources. Several immediate effects were noted:

- . Decentralization, as it was anticipated, caused very large numbers of personnel to relocate into regional apparatus. Such cadres were not stable additions to the regional work force, however, and from all accounts in the subsequent period, management turnover became a significant problem.

- . Decentralization of heavy industry and development of regional industrial resources required personnel of all levels of educational attainment, but the regional system of management reduced the likelihood that personnel shifts between similar occupations and enterprises in different regions would be generated by governmental authorities. Indeed, Khrushchev indicated his belief that competition for labor supplies, rather than central direction of personnel, would be a more efficient way to redistribute cadres.

- . Decentralization of heavy industry and regional economic administration had to compete with centrally determined projects for personnel. The Virgin Lands campaign, for instance, and expansion of projects of the magnitude of the hydroelectric schemes

drew heavily on available trained manpower and may have caused administrators to reduce regional expectations for growth.

The 1957 economic reforms had several effects on expansion plans for education. In the first instance, the process of decentralization caused education programs which were attached to economic ministries to fall under the umbrellas of the new economic administrations. The reforms made good sense in this regard, as the regional requirements for education and training would vary considerably. However, at the same time, national manpower requirements ~~would~~ not be met unless attention to the total slots available were matched to some total picture of nationally required specialists. With the reorganization, regional administrators were given the opportunity of influencing more strongly the direction of education within their regions, even though central direction over the programs continued.

In another way, the changes were less clearly linked to economic reforms. In the 1956/57 academic year, admissions to higher education programs continued to be granted on a preferential basis to persons having two years of prior work experience. In the previous period, significant percentages of admissions were directly from secondary programs, but in the 1957/58 academic year, pressures for meeting the admissions standard increased. It seems that the concept of prior work experience was based on the practical need for training praktiki to a higher standard, but also ^{so} the ideological notion that workers should be rewarded for their contributions to society. Regional economic expansion had to accommodate pressures for expanding regional educational opportunities without generating new demands for scientific, research, and teaching cadres. Admissions to programs

located in European areas of the Soviet Union were reduced and programs and students were encouraged to move to eastern locales.¹³⁴

The emphasis on prior work experience brought into the educational process students whose educations had been interrupted and whose preparation for academic work was often weak. In one analysis of the rules change, an article in Vestnik vysshei shkoly noted that the percentages of students enrolled under the provision was quite different in the various institutions (indicating a lack of enthusiasm for the program by educators), the shifts in applications for admission was heavily toward engineering and polytechnic courses, and the drop-out rates of the new students was very high. It was suggested that preparatory courses of 8 to 10 months might facilitate the success of these students.¹³⁵

Similar experiments were conducted for secondary programs. As Khrushchev noted, only a small number of general secondary graduates would be able to continue to higher studies, if only due to the slow pace of expansion at upper levels. Preparation for employment became an increasingly important objective for general secondary programs. For example, a major advance for secondary specialized education was the creation of short programs for secondary graduates. These were also developed within the Labor Reserve. Additionally, experiments were seen in a small number of RSFSR schools which added an 11th year to the general program. The additional year accommodated production training. The students worked six days every other week, were paid at the rate of 155 rubles per month, and urban students studied on the alternative week. Variations in the scheme were offered in rural areas.¹³⁶ The program was particularly difficult for upper

secondary urban students since work requirements were based on the legal, age-defined, acceptable work day.

Economic reforms were also enacted in 1958 for the agricultural sector. In essence, the Machine Tractor Stations were abolished and the equipment was sold to the farms.¹³⁸ The collective farms assumed full management of agriculture and many of the former MTS personnel were assigned to the kolkhozy. The reforms also established Repair and Technical Stations (RTS), whose responsibilities included repairing and selling equipment to the kolkhozy and disseminating technical data. These changes were brought about by the multiple demands for qualified personnel for farms, MTS, and Party management cadres who oversaw farm production and deliveries to the State. Clearly, duplicative cadres of equal competence could not be provided in the short-term for each of these systems. Other reasons for desolving the MTS were their overall poor record of performance, and the need for an immediate infusion of capital into agriculture which would be gained by the sale of MTS equipment to the kolkhozy. Of the economic reforms which were developed in the second half of the 1950s, this one did not generate new demands for cadres. Moreover, it was suggested (although no evidence has shown it was implemented) that most of the 1.3 million MTS personnel were redistributed to kolkhozy most in need of experienced technical cadres.

There were other changes to labor laws which had implications for both education and the labor supply. In particular, the 1956 revisions to the labor code restricted employment of children in industry to the age of 16 or older, while 15 year-old children who

wished to work had to obtain special permission from both Party and union officials.¹³⁹ This statutory change was presented as a way of ensuring the expansion of secondary education while avoiding undue pressures on youth to seek employment. Indeed, relative to the expansion of junior secondary education, restrictions on employment were effective means for promoting compulsory attendance. At the same time, however, little incentive existed for many industrial leaders, union officials, or kolkhoz managers for restricting youth employment in favor of their continued educations, and it seems many youth did seek employment after completing junior secondary programs. Under conditions of constrained labor supplies and high expectations of production output, industry and agriculture would support early youth employment and needed labor documents would be obtained with relative ease by youth seeking exemptions to the age barrier.

In rural areas, the opportunities for schooling were significantly dependent on the kolkhoz building program. The rural school building initiatives, it has been shown by Noah, were especially dependent on voluntary labor, and these work requirements had been reduced during the early agricultural reforms. Especially in the late 1950s, there were newspaper accounts of lagging progress in school construction, unwillingness on the parts of rural administrators for enforcing mandatory education, and of youth engaged in rural employment from very early years.¹⁴⁰

Demographic factors have also been pointed out as offering some strong motivation for reforms in education. In particular, the concern was obvious from the early 1950s, when school enrollments dropped and the compensatory enrollments came from adult students.

By the 1959 census, it is certain that changed demography had severe implications for the formation of new labor cadres. The numbers of children born during and after the war were significantly below the usual. The 1959 census results showed that approximately 6 million fewer children were in the age bracket 10-15 than in the age group 16-21, thus offering the prospect that for several years there would be a significant reduction in new labor entrants.

Thus, at the point of Khrushchev's education proposals, which are discussed in the next section, we find very strong reasons for reorganizing technical secondary and higher education. Regional labor demands increased steadily, and as a result of economic measures, the absolute need for trained cadres grew. There were also very strong pressures against widespread expansion of education. Constrained labor supplies generally coupled with a program for rapid economic growth simply constricted opportunities for education by drawing individuals eligible for education into economic activities. Wage increments and other benefits associated with the need for attracting and sustaining labor also worked against increased levels of participation in education. As a result, educators sought ways for improving the quality of the workforce without reducing manpower available for employment. These opposing considerations formed the parameters for discussions of Khrushchev's education proposals.

1958/1959 Education Reforms

Across-the-board changes in education were debated and enacted into law during 1958 and 1959. The rapidity with which the changes were pursued seem at first glance to be somewhat precipitous. In

the context of the impending manpower crunch, they may also have been somewhat overdue. This section presents a discussion of suggestions made in 1958 and 1959 and a resume of the reforms which were ultimately chosen. The political and ideological contexts of education are a unique aspect of the reforms.

Khrushchev's Speech to the Komsomol.¹⁴¹ At the 13th Komsomol Congress, Khrushchev announced that the organization and the content of Soviet education did not meet the needs of society for trained cadres or for enhancing the transition to communism. He stated that certain factors must be considered by educators -- in particular, most students did not continue education beyond the 8th year, sought employment, but required job training in order to be integrated into the work force. He claimed that secondary academic schooling left the majority of students ill-prepared for employment. He noted that the attitudes of some youth toward physical labor was not acceptable in that they considered it an undesirable alternative to education, leading in some cases to "voluntary unemployment", or parasitism.

Khrushchev suggested a series of actions for improving both secondary and higher education:

- . All students should receive job training during the course of their general education.

- . The part-time education option serving youth and adults with technical and general studies should be expanded.

- . Higher education should admit workers on a preferential basis for the majority of admissions, with few secondary students admitted directly from school.

. Trade unions and the Komsomol would choose students for the part-time programs.

. Factory technical training programs could be revised to encourage praktiki to upgrade their credentials.

. Part-time and correspondence students could have progressively more time away from work responsibilities for study and the last year of their program could be without working.

. Agricultural institutes could be moved into rural areas, at minimum, and possibly connected to kolkhoz or state farms so that students would have opportunities for hands-on experience.

Two of the proposals were new. The notion that the Labor Reserve might become the mainstream route for secondary education raised immediately the issue whether Khrushchev envisaged that all students would leave the general school network after the eighth year. In essence, it would have meant that all secondary students would become technicians, which Khrushchev regarded as a potential boon for industry. The proposals would have also required higher education to compensate for the narrower academic backgrounds of new cadres -- and this was already a problem of general concern.

Khrushchev's proposal also involved the trade unions and the Komsomol in the selection of students for part-time and correspondence studies. While the motivation for this recommendation seemingly was that some students attended part-time higher education programs without also being employed, there were political and ideological factors at play in the proposal. The trade unions and the Komsomol involvement would have restricted admissions to workers whose occupations required further technical training. The involvement

of such forces in admissions decisions could have seriously impeded the choices made by individuals as to their preferred field of study. The extension of the power to the Komsomol and the trade unions might have been an attempt to counter the luke-warm reception which reforms in education had encountered hitherto. In theory, of course, a collective decision was in keeping with the push toward communism.

Responses to Khrushchev's Suggestions. After the speech to the Komsomol, there were numerous suggestions in the process for specific changes which might take place. A. Tikhonov, from the K.D. Ushinsky Institute for Pedagogical Studies, was the first to suggest that universal general studies should be expanded to eight years, followed by secondary technical training. His concept was that the additional years would allow students to reach legally employable age, while secondary education would emerge as occupational training. He offered a series of organizational frameworks as appropriate for upper secondary/technical training combinations. These ranged from one to two year programs in the Labor Reserve to three and four year programs, under different auspices, which would be geared to meeting manpower requirements of particular branches of the economy and which would be preparatory to higher education. Tikhonov called for a pedagogical conference to discuss the changes, and he argued for a flexible approach in setting mandatory course requirements in the various programs.¹⁴²

Other articles pointed out specific problems which might be resolved during the reforms. For example, one article in Komsomol-skaya pravda complained that in the existing setup, manpower planning was inadequate. Problems which were enumerated included specialists

who worked outside their fields of academic study, imbalance in admissions relative to identifiable labor requirements, poor job placement decisions, and inabilities of the economic councils in resolving manpower requirements. In addition, it was charged that some economic councils did not want new graduates to be assigned within their annual labor contingents.¹⁴³

Parallel to the education discussions, there were adjustments made to economic planning procedures. An article in Planovoe khozyaistvo pointed out that national economic planning would be a process of filtering up information from the bottom, and that not only would individual construction projects and enterprises be taken into account, but the economic councils and the republics would have a greater role in decisions for setting development priorities. Greater responsibilities for capital investment coordination, decisions regarding production, housing construction, and material supplies were assigned to the republics and the economic councils. Central authorities would "verify and coordinate" planning by industry and region.¹⁴⁴ This procedure held open the possibilities for rationalizing economic planning -- keeping goals in line with manpower availability, for instance, and for development of necessary social services.

In the summer of 1958, the head of the Labor Reserve emerged as a leading figure in the discussions of reforms in education. G.I. Zelenko picked up the notion that eight year education could be the basic general education program, but he offered a series of alternatives to structural options. First, he suggested that there might be schools for gifted children.¹⁴⁵ He proposed that the

purpose of secondary education might be to turn out skilled workers. Citing the inadequacies of the factory training system, and noting the existing inflexibility of the Labor Reserve schemes,^{145a} he suggested that the economic regional councils develop a series of urban and rural technical training schools. The new schools would cater especially to newly automated industries, would form centers within the regions for the individual branches of industry and agriculture, but would rely on the enterprises and farms for production training.¹⁴⁶

I. Kairov, from the Academy of Pedagogical Sciences, took a somewhat different perspective. In essence, he accepted the notion of eight years of general polytechnic schooling, but he declared that production training and general education were diametrically-opposed educational concepts. Even as experiments attempting to combine these elements were going on, the theoretical basis for the new system had not been established. He considered that specializations in the upper grades must include both theoretical and production training, and that the specializations offered in a given school should reflect the different regional manpower needs. He argued for gradual implementation of any reforms in education.¹⁴⁷

Zelenko inserted a note of realism about the employment picture. Specifically, there was enormous demand for skilled labor, and the demand would strengthen. Despite the existing systems for training, rational placement of graduates, and planning of the labor supply were also required. Even the expansion of secondary education, needed as it was for introducing advanced technologies, had to be planned in

conjunction with projected available employment. It was very difficult, Zelenko said, to place graduates -- even those trained at the specific requests of industry. He argued that combining general education and production training in the secondary schools was a faulty concept -- it placed too heavy a burden on the students; the job-training burden would fall on industry; students would occupy places which might be more productively filled by full-time workers; and there was the possibility that general secondary schools would graduate too many for the available jobs and higher education slots (thereby causing dissatisfaction among those forced to accept work at lower levels than their education and training otherwise commanded).¹⁴⁸

Zelenko argued that his proposal of urban/rural technical training centers would contribute to resolving labor shortages. He suggested that the centers might form an interim step in the education system. Specialized secondary education, which did not give production experience, would be the next step. Then, education would be followed by a period of mandatory employment prior to admission to higher education. Exceptions would be allowed in the cases of gifted children in relation to mandatory work, and there would be flexible connections between evening and full-time specialized secondary programs.¹⁴⁹

Higher education was also subjected to some criticism. In particular, ^{V.P.} Elyutin, the USSR Minister of Higher Education, cited a need for greater practical experience during higher education. He suggested that the students without prior work experience might work full-time during the first two years of study. Thus, many

many students might participate in part-time or correspondence courses during the first two years. But these systems were weak, isolated from both academic institutions and from enterprises. Activities would have to be undertaken for strengthening these options -- e.g., developing independent correspondence centers and locating guidance facilities within the larger industrial enterprises. Elyutin insisted that the reforms would require all teachers to be retrained so that they could implement the new polytechnic and training emphases and so that they could improve their knowledge of scientific advances.¹⁵⁰

Khrushchev's Thesis. Following the public debates, Khrushchev elaborated his earlier talk at the Komsomol Congress. In a Pravda article, in late September 1958, he noted that the reforms in education must (a) address attitudes toward work and (b) create specific employment training. Khrushchev suggested that employment after junior secondary education should be mandatory. Education should be restructured as grades 1-8 and 9-10, with due recognition of male-female roles in life and regional/local labor requirements.

Khrushchev suggested several parallel structures might be appropriate. The first option would combine general education with labor and technical training, with the emphasis placed very heavily on work. A second route was that junior secondary graduates would be assigned to jobs (40% would have urban placements and 60% would have rural placements), and job training would be provided in factories, FZO or FZU programs of up to 2 years duration, and in correspondence programs. The schools for working and rural youth constituted another course, where students would work and study (accommodations being made to work schedules, depending on the

level of study). The present school system, followed by labor training and mandatory employment, was a further option. Khrushchev also supported developing special schools for gifted children, and he stressed that implementing the changes should not interrupt the scheduled admissions into higher education.

With regard to higher education, Khrushchev continued stressing that specializations must include practical training; part-time and correspondence programs would be a primary vehicle for post-secondary education; and workers should be given preferential treatment in the admissions decisions and in the extent of their work obligations during study. The republics would carry the burden of decisions on structural reforms, leaving decentralized efforts to accommodate labor needs. Enterprises, further, had the obligation of hiring young graduates, inexperience notwithstanding.¹⁵¹

Party-Government Thesis on School Reforms. While there was little new in the specific recommendations made by Khrushchev in view of the public comments, reliance on decentralized organizations reiterated his commitment to forms of education which would strengthen recent Soviet economic changes. In November 1958, a joint statement was released in the names of the Communist Party and the Council of Ministers which systematically treated the reforms for each stage of education. The joint statement toned down the previous discussions by suggesting that the existing system was "only somewhat divorced from life", and that it was "expedient" for all youth to be drawn into the work place from the ages of 15 or 16.¹⁵²

The new system would be based on 8 years of incomplete secondary schooling, stress communist upbringing, labor instruction, and poly-

technical/labor training schools which included production training; and specialized secondary schools which would give a general education, production training and a specialist classification. Schools would have production centers and output would support part of the costs of training. Accountability for mandatory education would be established, and schools would take into account the needs of regional development for specific labor resources. Further, in response to statements regarding placement of graduates, a new system of planning would be created for effecting long-term planning of both technical training and job placements. Specific jobs would be reserved for students and young graduates.

The thesis said that higher and specialized secondary education might increase their reliance on part-time and correspondence studies, would upgrade the production/training components of the courses, would admit increasing numbers of students with prior work experience, and would cater to regional needs for specializations. Teachers would be retrained. Research in higher education institutions would stress current economic and social problems. Academic staff would switch to industrial employment from time to time. Qualified staff would be drawn from industry and from agriculture in the capacities of technical instructors. Expansion of physical plant would emphasize new industrial areas, such as the Far East and Siberia. Generally, the thesis said that the policy for expanding education would emphasize only gradual changes while producing additional graduates in the near-term.

Legal Reforms and Implications for the Economy. The legal mandate for education was adopted on December 24, 1958 at the meeting of the Supreme Soviet. Most of the directives duplicated those in

the Joint Thesis, issued a month earlier. The system which was envisaged was as follows:

- . Primary and junior secondary education would add a year to accommodate limited labor training and polytechnic instruction.

These years of schooling were mandatory for all children.

- . Secondary schooling from grade 9 to 11 was no longer obligatory, but students from the ages of 15 or 16 were expected to (a) work, or (b) to be enrolled in an education/training program.

- . Secondary schooling would be offered under the Labor Reserve and through schools of the Ministry of Education in the republics. Secondary specialized education was also offered under the Ministry of Higher Education.

- . Forms of secondary schooling were part-time and correspondence studies for students who worked or who were enrolled in technical training programs. Alternative full-time programs were offered in the general school system, complemented with production training and labor practice of at least one-third of the program. Existing schools would continue, but with a heavier labor training content through 1965, accommodating admissions to higher schools and allowing students to finish programs for which they were already enrolled.

- . Labor Reserve programs would change into urban and rural technical colleges of one to three years duration (for urban programs) and one to two years duration (for rural settings). In addition, the Labor Reserve would take on the responsibility for technical training programs which were attached to economic councils and ministries, would supplement the activities of enterprises for training workers in the brigade method (providing in this instance

suggestions for organization of the programs, as well as curricula, textbooks, and other materials).

. Labor Reserve and the Ministry of Education schools would develop workshops and production units, where appropriate, while support for the Labor Reserve schools, particularly, would be partially funded by profits from school production work.

. Higher education and specialized secondary education would be upgraded in relation to practical training. Higher education would have to rely heavily on part-time and correspondence programs, as students without practical work experience would be required to study part-time for two years before entering the full-time program. Availability of programs would be based on regional manpower needs. Industries and other hiring authorities would be required to reserve slots for students in production training and for young graduates, and a plan to this effect would be developed parallel to the national economic plan.

. Statutes on changes to the structure of education and to the content of programs were subject to approval by the USSR Council of Ministers.

Primary and Junior Secondary Education. The major accomplishment of the reforms was in extending mandatory education for both rural and urban students to eight years from the existing seven. In addition, the requirement for administrative accountability for compliance with attendance rules was a step forward, especially with regard to the emphasis on ensuring that girls were among the attendees. On the other hand, implementing mandatory eight year education was regressive for urban students, who had been subject

to a ten-year requirement for a decade.

Polytechnic/labor training in education was not to be very different from on-going experiments, although the total number of hours in such instruction tripled. The major change was that students would enter employment or some form of specialist training from the age of 15 or 16. The limitation of the requirement was the omission in statute of a method of ensuring compliance or of establishing a job placement system for facilitating entry of unskilled workers into the labor force. The net result, of course, was that all students would be retained outside the work force for an additional year -- a factor which complicated at least marginally the flows of unskilled workers into agriculture and industry.

Secondary Education. The major accomplishment of the reforms was in making available to all students some form of additional schooling or technical training, with the emphasis on equal standards in different program settings. The anticipated increase of skilled workers in the labor force, it was thought, would greatly facilitate implementation of technological advances through the economy. Attention to regional labor requirements and accommodation in both general education and the Labor Reserve programs to these needs was a direct response to manpower difficulties which had been expressed by economic councils and regional administrations. Further, the directive for planning manpower in relation to the availability of training programs and in anticipation of the increased flow of young skilled workers into employment was an answer to complaints by many that youth were probably going to be unable to find employment on graduation.

There were several problems generated by the reforms which might have been anticipated. First, the increased stress on education and training, especially the changes in the Labor Reserve system to a one-to-four year variant, would slow down the entry of youth into the job market. Secondly, while the reforms specifically addressed the qualifications of existing personnel, the reforms generated a huge demand for technical training specialists, and it was anticipated that most such instructors would be drawn from active employment. Manpower shortages in industry would have constituted an automatic disincentive for industry to voluntarily release their skilled workers for instructional cadres, and the quality of instruction would be jeopardized by relying on instructors whose educations were inadequate in pedagogical theory and practice. Thirdly, material supports for technical training were clearly lacking, and while it was anticipated that these supports would be supplied by new industries, there was no clear incentive for economic councils to reorient development priorities to meet the needs of the education sector. Further, even while the Labor Reserve and other school networks might have production centers, eventually even these were tied to the production targets of existing industries. Fourthly, technical schools under the auspices of the Labor Reserve and other such training schemes did not relieve industry of its own training burden, although it would allow the emphasis on factory-based training to turn to retraining existing cadres. The parallel programs for training, therefore, generated substantial requirements for additional qualified personnel, reducing (in effect) the availability of such persons for work in production.

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Secondary Specialized Education and Higher Education. In general, the reforms were not particularly significant for specialized secondary programs, although the requirements in the new law included a greater emphasis on production training. For higher education, on the other hand, the law was especially important. Implications ^{of the law} for expanding higher education stemmed from channelling students into part-time and correspondence studies, prior work experience, production work during the course of higher studies, and compensating in the higher program for loss of general education preparation at the lower levels of schooling.

In the first instance, it was certain that part-time and correspondence studies had already expanded enormously during the years prior to the reform, but that the expansion had not yet accommodated the quality and standard of the full-time programs. In one analysis, an educator pointed out that the standard of theoretical training was much lower, students had too heavy a work burden, and staffing was inferior to the full-time programs.¹⁵³ Expansion of these networks would require more materials, facilities, and staff, while accommodation would be required between the student's work responsibilities and the demands of academic life.

Expansion of education was not only to increase enrollments, but to bring in working students who otherwise would have participated in full-time programs. In effect, the standard of higher education was likely to suffer in the near-term, until the basic infrastructure was sorted out. Further, even after work experience was accumulated for admissions purposes, the practical work requirements imposed

on higher education students reduced even more the theoretical content of their educations. This meant that while higher education was supposed to broaden the educations of graduates, the institutions would be forced to produce even more narrow specialists, because they were also under the obligation to graduate greater numbers in the short term. Expansion of higher education also reduced flows of youth into the labor market, with the compensating factor only that future availability of highly trained specialists would enhance economic performance.

For the higher school, accommodation to the lower standard of youth entering higher education was likely from several perspectives. On the one hand, the law required that increased emphasis be placed on students who requested to study in their former fields of work specialization. On the other hand, admissions of workers and correspondence students would be supervised in some way by union and Komsomol representatives, who would likely influence admissions to technical programs. This established the potential for imbalance in future manpower availability for some fields. If education were to be designed for meeting "future" needs for specialists, accommodation to new disciplines would have to be made. Further, if educational standards were not to suffer, and if education programs were to compensate for lacking general education at the secondary level, and if education were to graduate theorists as well as production specialists, then it is likely that the duration of higher education had to be lengthened. The conflict in the situation, however, arose with the requirement to graduate additional specialists in the near-term -- a requirement which could

not be met through simply expanding correspondence studies and which was compromised by the likely inability to ensure a high quality graduate.

Conclusions

There was a mandate for change in post-war education which was in linking the educational experience to preparation for employment. In the short-term, post-war solutions were in offering between four and seven years of general education, followed by on-site job training. The growth of the Soviet economy, however, coupled with the war-time losses of specialists from the labor force encouraged educators toward adopting a program for technological literacy during the general school process, expanding opportunities for education as well as the mandatory period of schooling, and to requiring practical work experience during schooling.

Basic infrastructure was lacking in the post-war period for both general studies and for technical preparation of students. This condition was pervasive throughout the Soviet Union geographically and at all levels of education. Infrastructure included teacher preparation, schools, equipment, materials, and adoption of curricula for technical studies. For some geographic areas and for the rural economy, in particular, special efforts were undertaken to extend the availability of the education programs and job training schemes. In the 1950s, economic reorganizations demonstrated clearly that manpower for many regions and for agriculture remained numerically or qualitatively insufficient

and that the spread of education was too slow.

Reforms were pursued gradually throughout the 1950s and the development of pedagogical theory moved from an insistence on general academic studies to polytechnic instruction, but again to specific labor training for all students. These changes reflected the pace of (a) de-Stalinization, and (b) recognition of manpower shortages, and (c) lowered birth rates in the post-war period. Various manpower options were pursued in the interim, such as the de-mobilization of the military and reliance on women in employment. To some extent, new economic priorities of industrial and agricultural automation, as well as increased labor productivity (derived from new organizational practices) compensated for numerical declines in increments to the work force. However, in its ultimate form, the values reflected in policy decisions were placed equally on academic preparation and technical preparedness, superceding the earlier insistence on near-term formation of cadres, especially at the unskilled levels.

Basic industrial infrastructure was uneven in the Soviet Union and geographical expansion of industry and agriculture appears to have diluted potential benefits of new technologies and increased availability of machinery. In some instances, the potential for labor productivity improvements due to changes in technology remained unrealized. Incentives for developing and sustaining cadres in new industrial regions were offered to workers in the forms of fewer working hours, mobility, housing, and wage increments, and improvements in social security. However, some areas had education infrastructure which was too weak for training indigenous personnel and the very incentives attracting personnel

away from European industrial areas served to draw personnel away from the east. As V. Perevedentsev wrote for Voprosy ekonomiki:

The key factor in the expedient territorial redistribution of labor should be the planned equalization of living standards enjoyed by populations in different parts of the country... Material incentives play no less a role when it comes to the territorial redistribution of manpower resources. But incentives must not be interpreted in an oversimplified way to mean merely a raise in nominal pay. As experience shows an increase in wages, unless it is attended by opportunities for the worker to spend his income to advantage, by no means promotes the formation of stable cadres. If the opportunities for spending are poor, above-normal wages lead to labor turnover, since workers gravitate to those parts of the country in which they can use their savings to best effect.¹⁵⁴

Throughout the 1950s, efforts were made for remedying the problems with opportunities for education in the new regions and for agriculture. The lowest level of training was ⁱⁿ the mechanization of agriculture schools program, which was under the auspices of the Ministry of Agriculture and later under the Labor Reserve. Secondary schools and specialized technical training programs at the secondary and higher education levels were nearly non-existent at the outset of the 1950s in many regions and development of this level of education was seriously impeded by lack of cadres suited to teaching and research in higher education.

Reliance on part-time and correspondence studies was an increasingly important educational option during the entire post-war period. It is perhaps unfortunate that the material and personnel backups to these systems were so poorly established. Criticisms of the programs were common, drop-out rates were especially high, and the quality of the training frequently was not at current technological and scientific standard. In the 1958 reforms, these factors were addressed insofar as authorities were instructed to provide training for new cadres

and to remedy material deficiencies. Nonetheless, despite some efforts to provide incentives for personnel to join these cadres and to decentralize higher education, the very fact that the reforms relied heavily on these systems of education put the reforms in jeopardy relative to graduation of highly qualified technical and scientific personnel.

In ideological terms, the reforms relied heavily on the ideals established for education shortly after the revolution. The reforms reiterated access to education for all students, regardless of class, nationality, or native language. They increased access to education by adding an additional year to the period of mandatory education and by emphasizing decentralized programs. The insistence on labor training and "values associated with respect for working people", and preferential treatment of workers in admissions policies was also a move toward establishing an intellectual elite thoroughly grounded in working class ethics. Involvement of outside bodies (as trade unions, Party, and Komsomol representatives) in admissions decisions and examinations was a move toward collective decisionmaking. Similarly, the reliance on decentralized authorities to effect the expansion of education might be regarded as democratizing education.

It was part of the de-Stalinization process that the course and program offerings would move from commonality to diversified types of programs. As one educator expressed it, unity in the goals did not mean necessarily sameness in experiences. N. Goncharov and A. Leontyev wrote;

We share the view that school unity by no means signified uniformity, or unification, but is a democratic principle which simply guarantees the right of all strata of the

population to receive a general education and mount unhampered all the rungs of the education ladder. We also believe differentiation is a flexible means of channelling children's proclivities... Unification of curricula in the senior grades, from our point of view, stands in direct contradiction to the needs of society, and the tasks of complete development of the aptitudes, gifts, and talents of the younger generation.¹⁵⁵

As the general education reform would allow the differentiation in curricula to reflect the needs of society and the economy in various regions, the two authors expressed the conclusion (enacted into the law) that special schools for gifted children would be unnecessary.

If the ideological picture was in keeping with Communist ideals, why did the political picture look so different? It must be pointed out that the reorganizations of economic and agricultural decision-making which were undertaken in the second half of the 1950s were not well established. These reorganizations included the creation of regional economic authorities, the amalgamation of the MTS with the kolkhoz, and the increased role of decentralized authorities in economic decisionmaking. Decentralization of economic planning was not completed at the time of the reforms in education and there were indications that recentralization of some functions might occur. This caused massive shifts of institutional and economic power blocs toward the republics and the economic councils in the first instance. These same entities -- not settled in their economic functions -- were not required to tackle education changes on a massive scale.

Given that economic regions were charged with having "localist tendencies", reforms in education which reinforced local and regional manpower needs seem inconsistent. Thus, reliance on increased planning for labor, including the placement of young graduates in industry and agriculture, still might be unsatisfactory.

If a national perspective were applied to planning for cadres, local investment in education might not result in cadres being assigned locally. If a local perspective were taken, national priorities might be overlooked and there would be an imbalance in the interests of short-term needs in the types of training offered. Under the circumstances, it is understandable that the Khrushchev reforms were to be implemented only gradually, with existing schools and training programs continuing for several years.

It is at the point of the ¹⁹⁵⁸⁻1959 reforms that this thesis stops. Clearly, there is another body of literature on Soviet education taking into account the reforms in the mid-1960s, the 1970s, and the 1980s. Polytechnic/education remains a controversial issue in the Soviet Union and the most recent reforms again stress official interest in the subject.

Appendix 1

Numbers Serving in the Soviet Military

	<u>Matthews</u>	<u>Moorsteen and Powell</u>
1937	1,433,000	1,700,000
1938	1,500,000	2,200,000
1939	1,500,000	2,900,000
1940	2,500,000	3,500,000
1941	4,207,000	--
1942	--	--
1943	--	--
1944	--	--
1945	11,365,000	10,500,000

Sources, M. Matthews, Youth Employment in the USSR, 1946-1958, op cit,
R. Moorsteen and R. Powell, Soviet Capital Stock, 1928-1962,
op cit.

Appendix 2

Workers Trained in Labor Reserve Schools (1941-1945)

<u>Type of School</u>	<u>Graduations</u>	
Total	2,475,000	
FZO	1,790,000	
Uchilishcha	685,000	
<u>Urban/Rural Enrollments</u>	<u>1940/44</u>	<u>1945</u>
Urban Students		
FZO	20%	13%
Uchilishcha	74%	51%
Rural Students		
FZO	80%	87%
Uchilishcha	36%	49%
<u>Redundancies & Failures</u>	<u>1940/45</u>	
Intakes	3,703,000	
Graduations	2,475,000	
Differential	1,228,000	

Sources: Matthews, op cit, indicated that the differential between intakes and graduations was largely due to youth who ran away from Labor Reserve schools. This was done at considerable personal risk as Labor Reserve regulations were comparable to military regulations on such matters. It is presumed that the failures were especially high among uchilishcha programs which operated for longer periods of time. Data for admissions taken from Istoriya SSSR, no. 2, 1961, p. 21.

Appendix 3

Fields of Training in Labor Reserve 1941-1945

Machine Building and Defense	858,300	¹ Graduates
Metallurgy and Chemicals	320,000	
Electric Power	54,600	
Fuel Industry	266,700	
Transport	361,500	
Construction	243,200	
Other	<u>170,300</u>	
Total	2,475,000	

1. Matthews, op cit, said that 150,000 of the MB&D trainees went to machine building and the remainder to defense.

Source: Istoriya SSSR, vol. 2, 1961, p. 20.

Appendix 4

Higher Education Graduates

(day and evening students)

<u>Year</u>	<u>Engineering</u>	<u>Arts & Education</u>	<u>Other</u>	<u>Total</u>
1937	34,600	31,700	38,500	104,800
1938	31,300	37,900	34,600	103,800
1939	28,400	39,600	30,300	98,300
1940	29,400	40,500	32,200	102,100
1941	27,500	47,600	29,600	104,700
1942	13,400	25,400	30,100	68,900*
1943	9,700	5,900	12,200	27,800*
1944	9,300	15,200	11,200	24,500*
1945	9,900	28,500	10,800	49,200
1946	-	-	-	67,300
1947	-	-	-	86,300
1948	-	-	-	121,500
1949	-	-	-	138,300
1950	34,800	72,200	40,900	147,900
1952	-	-	-	175,800
1953	-	-	-	172,000
1954	52,900	75,500	36,000	174,400
1955	62,200	73,100	48,500	183,800
1956	-	-	-	191,000
1957	-	-	-	194,500
1958	-	-	-	213,300
1959	-	-	-	253,700

Sources; N. DeWitt, Education and Professional Employment in the USSR, Washington, DC : National Science Foundation, 1961, pp. 608-611. Total graduations from Narodnoe khoz'yaistvo SSSR v 1958g, p. 837 for years 1937, 1940, 1950, 1953, 1955-58. Total for 1959 in Narodnoe khoz'yaistvo SSSR v 1959g, p. 748.

Appendix 5

Population of the USSR

1913 - 1959

<u>Year</u>	<u>Total Population</u> ¹	<u>Urban</u>	<u>Rural</u>
1913	159.2 ²	28.4	130.7
1920	136.8	20.8	115.9
1922	136.1	22.0	114.1
1926	147.0	26.3	120.7
1939	190.6	60.4	130.2
1950	178.5	69.4	109.1
1951	181.6	73.0	108.5
1952	184.7	76.8	107.9
1953	187.9	80.1	107.7
1954	191.0	83.6	107.3
1955	194.4	86.2	108.1
1956	197.9	88.1	109.7
1957	201.4	91.3	110.0
1958	204.9	95.5	109.3
1959	208.8	99.9	108.8

Source; Naselenie SSSR 1973, statisticheskii sbornik, Moscow 1975, p. 7.

1. Population in millions.

2. 1939 boundaries. Otherwise, the population in 1939 was reported as 139.3 million.

Appendix 6

Distribution of Men and Women

in the Soviet Population

<u>Year</u>	<u>Number of Men</u> ¹	<u>Number of Women</u>
1913	79.1	80.1
1920	65.3	71.5
1922	65.0	71.1
1926	71.0	76.0
1939	94.4	99.3
1950	78.4	100.1
1951	79.9	101.7
1952	81.5	103.3
1953	83.3	104.7
1954	84.8	106.2
1955	86.5	107.9
1956	88.5	109.4
1957	90.2	111.2
1958	92.0	112.9
1959	94.0	114.8

Source; Naselenie SSSR 1973, statisticheskii sbornik, Moscow 1975, p. 8.

1. Population in millions.

Appendix 7

Distribution of the USSR Population (Urban/Rural and by Republic) 1939 and 1959

<u>Jurisdiction</u>	<u>Total 1939 Population</u>	<u>Urban</u>	<u>Rural</u>	<u>Total 1959 Population</u>	<u>Urban</u>	<u>Rural</u>
Total USSR	190.7	60.4	130.3	208.8	99.9	108.8
RSFSR	108.4	36.3	72.1	117.5	61.6	55.9
Ukraine	40.5	13.6	26.9	41.9	19.1	22.7
Belorussia	9.0	1.9	7.1	8.0	2.4	5.5
Uzbekhstan	6.4	1.5	4.9	8.1	2.7	5.3
Kazakhstan	6.1	1.7	4.4	9.3	4.0	5.2
Georgia	3.6	1.1	2.5	4.0	1.7	2.3
Azerbaijan	3.3	1.2	2.1	3.7	1.7	1.9
Lithuania	2.9	.7	2.2	2.7	1.0	1.6
Moldavia	2.4	.3	2.1	2.9	.6	2.2
Latvia	1.9	.7	1.2	2.1	1.1	.9
Kirghiz	1.5	.3	1.2	2.1	.6	1.3
Tadzhik	1.5	.3	1.2	2.0	.6	1.3
Armenia	1.3	.4	.9	1.8	.8	.8
Turkmenia	1.2	.4	.8	1.5	.7	.8
Estonia	1.1	.4	.7	1.2	.6	.5

Source, Narodnoe khozyaistvo SSSR v 1958g, pp. 8 and 10; and Narodnoe khozyaistvo SSSR v 1959g, p. 10.

1. Population in millions.

Natural Changes in the Soviet Population,

(Births and Deaths, 1913-1959)

Year	<u>Estimated Actual Births</u> ¹	<u>Estimated Actual Deaths</u>	<u>Gross Population Change</u> ²
1913	7.4 ³	4.7	+2.7
1920	4.2	5.0	-.8
1922	4.8	5.1	-.3
1926	6.0	2.8	+3.2
1937	5.0	2.9	+2.1
1938	6.0	2.9	+3.1
1939	5.5	3.9	+1.6
1940	6.0	3.5	+2.5
1941	6.0	6.4	-.4
1942	4.2	9.4	-5.2
1943	3.4	9.5	-6.1
1944	3.3	8.0	-4.7
1945	3.2	5.9	-2.7
1950	4.7	1.7	+3.0
1951	4.8	1.7	+3.1
1952	4.9	1.7	+3.2
1953	4.7	1.7	+3.0
1954	5.0	1.7	+3.3
1955	4.9	1.6	+3.3
1956	5.0	1.5	+3.5
1957	5.1	1.5	+3.6
1958	5.1	1.4	+3.7
1959	5.2	1.5	+3.7

Moscow 1992,

Sources: Narodnoe khozyaistvo SSSR v 1928-1972gg, p. 40 for rates per 1,000 population which were then extrapolated to actual estimated births and deaths for 1913, 1926, 1937-40, 1950-59. Base population data from ibid, p. 9 for 1913, 1937-40, 1950-59. Other data were 1941-45 from A. Sauvy, "La Population de l'Union Soviétique," Population, no. 10-12, 1960, p. 472, and for 1920, 1922, from personal extrapolations.

1. Population in millions. 2. Figure exclusive of immigrations and emigrations. 3. 193 territory.

Footnotes to Part V

1. A. Sauvy, "La Population de l'URSS," Population, vol. 7-9, 1956, no. 3, p. 472.
2. Narodnoe obrazovanie, nauka i kultura v SSSR, Moscow 1971, p. 19.
3. R.H. Moorstein and R.P. Powell, Soviet Capital Stock, 1928-1961, Homewood, IL: R.D. Irwin, Inc, 1966, appendix Q. Data represent total estimated employment distributed between agricultural and non-agricultural employment in prevailing man-years. This unit of measure does not take into account over-time worked by individuals and thus inflated the total employment estimate by an unknown factor. The series are used because the data account for kolkhoz workers.
4. Ibid, appendix Q-4. When data are adjusted to show changes in hours required by individual employment sectors, they illustrate that industrial employment equalled rural agricultural employment as early as 1940, and that by 1959 the urban sector accounted for about 20 million more workers than agricultural employment. Kolkhoz workers are calculated as one man-year per kolkhoz household.
5. Ibid. The problem with agricultural employment data is that the unit of measure "man-years or labor days" are accounting terms which do not adequately measure persons employed. In particular, the accounting units do not address the seasonablity of labor, over-time, or unofficial contributions by rural women and children.
6. Ibid, appendix Q-1.
7. Narodnoe khozyaistvo v 1959g, Moscow 1959, p. 11 for the population data, and the employment data are taken from Moorstein and Powell, op cit, appendix Q-1.
8. J. Newth, "The Labor Force in the USSR," Soviet Studies, vol. 11, no. 4, April 1960, pp. 363-372. See also, S.L. Senyavsky, Rost rabocheho klassa SSSR, 1951-1969gg, Moscow 1966, pp. 48 et seq. J.A. Newth in A.H. Brown and M. Kaiser, The Soviet Union since the fall of Khrushchev, London: MacMillan, 1975, p. 93 said that participation in the labor force of persons aged 15-69 was 71% of the population in those years. Excluding the men and women according to legal working ages produced a rate of about 78% of age-eligibles. Therefore, the gap of 5% rests on the definition of numbers participating. Moorstein and Powell do not provide adequate information in this regard.
9. CIA, Labor Supply and Employment in the USSR, Washington, DC: National Foreign Assessment Center, October 1960.
10. Ibid.

11. Moorstein and Powell, op cit, appendix Q-1.
12. N. Jasny, Soviet Industrialization, 1928-1952, Chicago, IL: University of Chicago Press, 1961, p. 21 said that despite planned de-mobilization, releases of the military were not efficiently handled and, in effect, delayed post-war economic recovery.
13. M. Feshbach, The Structure of Supply and Demand for Manpower in the USSR, 1950-1980, Ph.D. dissertation, The American University, 1974 cited data which indicated in 1952 72.1% of industrial wage workers had achieved either primary or incomplete primary education, while an additional 25.5% had reached incomplete secondary levels. Data were drawn from Ts.A. Stepanov (ed.), Rabochii klass SSSR i ego vedershchaya rol' v stroitel'stva kommunizme, Moscow 1975.
14. A.D. Redding, "Distribution of USSR Non-agricultural Employment, 1928-1850," RM-703, The Rand Corporation, Santa Monica, CA, 18/10/51.
- 14a Feshbach, op cit.
15. CIA, op cit, and J.A. Newth, op cit. Newth argued that women constituted the significant manpower resource for the 1950s -- a point which is questioned here. Newth's argument, however, was not that the resource could actually be tapped, but an observation based on the numerical employment status of women.
16. A. McAuley, Women's Work and Wages in the Soviet Union, London: George Allen and Unwin, 1980, pp. 35-36.
17. E. Manevich, Voprosy ekonomiki, no. 6, June 1965, pp. 23-30, translated in Studies on the Soviet Union, vol. 5, no. 2, 1965, pp. 89-98.
18. R. Conquest (ed.), Industrial Workers in the USSR, London: Bodley House, 1967, p. 138.
19. Pravda, 15 July 1956, pp. 1-2. Pensions were raised to a minimum level of 300 rubles/month. See law in Sbornik zakonodatel'nykh aktov o trude, Moscow 1956, pp. 420-432. Conversely, prevailing minimum wages and student stipends were 270-350 rubles/month. M. Dewar, "Labor and Wage Reforms in the Soviet Union," Studies on the Soviet Union, vol. 2, no. 3, 1962, pp. 80-92, and Trudovoye aktivnost pensionerov, Kiev, 1984. Dewar pointed out that wages were supplemented by bonuses and fringe benefits -- a factor which reduces the effectiveness of comparisons between official wages and the pension levels. In 1956, minimum wages were raised to 300-350 rubles/month. Pravda, 9 September 1956, p. 1. The CIA, op cit, noted that the raised pension levels (combined with the level of minimum wages) encouraged some older workers to seek retirement. The ceiling on pensions had a reverse effect at upper income levels.

20. Moorstein and Powell, op cit, appendix Q.
 21. Khrushchev called for a reduced work week at the 20th Party Congress. See M. Dewar, op cit, for a discussion of these reforms.
 22. J.J. Tomiak, The Soviet Union, Newton Abbott: David and Charles, 1972, p. 20 wrote that in 1949 and 1950, 238 of 614 heads of Marxism-Leninism departments and 2201 of 2756 lecturers in the subject in the higher education institutions had not degrees or titles.
 23. Pravda, 13 September 1953, pp. 1-4. The article by Khrushchev outlined problems in Soviet agriculture. The first item he cited was the neglected financial investment in the sector.
 24. M. Matthews, Youth Employment in the USSR, 1946-1958, Ph.D. dissertation, Oxford University, 1961, pp. 207, 250c, 251.
 25. Moorstein and Powell, op cit, appendix Q-1.
 26. Ibid.
 27. Sbornik zakonodatel'nykh aktov o trude, op cit, p. 263. According to Matthews, op cit, p. 135, legal restrictions on youth employment were not enforced. A school inspection program devoted to securing the financial/material supports of local schools were established shortly after the war. Matthews believed that this program indicated a concern for non-compliance with compulsory attendance requirements.
 28. Vedomosti verkhovogo soveta SSSR, 1956, no. 12 (854), text 242, (hereinafter cited as Vedomosti), and Sbornik zakonodatel'nykh aktov o trude, ibid, p. 91. Matthews, op cit, observed that the laws made juveniles 16-18 years of age unattractive to industry so that management either broke the law and required a full working day or paid the juveniles lower wages.
 29. Confirmation of the ten-year educational requirement was included in both the fifth and sixth five-year plans.
 30. N.A. Voznesensky, Bol'shevik, no. 6, March 1946, p. 82. The Labor Reserve was instructed to train 4.5 million (or 1.2 million youth per year) during the 4th plan period.
- 30a J.A. Newth, Soviet Studies, April 1960, op cit.

31. For example, the rational use of workers freed from a specific job by automation meant that labor might be redistributed by plan. J. Miller, "50 Years of Soviet Labor," Studies on the Soviet Union, 1967, vol. 7, no. 1, p. 23. The practical, political and ideological justifications for social research are discussed in Literaturnaya gazeta, 24 March 1956, pp. 3-4.
32. A. Zverev, Bolshevik, no. 12, June 1952, pp. 24-25 wrote that employment of excessive personnel and over-expenditure of the wage funds often related to the enterprises failure to meet plans for production and led to increased production costs.
33. Pravda, 13 April 1954, p. 1; Izvestiya, 12 June 1954, p. 2, and Pravda, 3 November 1954, p. 2. The latter article explicitly stated that work in territories and provinces was without full scientific knowledge.
34. Matthews, op cit, p. 317 stated that there was no evidence to suggest that action for planning cadres took place until 1951. He said that only the responsibility was assigned. This may be an early date, as complaints at the 19th Party Congress were directed to the lack of such planning, Pravda, 8 October 1952, pp. 4-5.
35. S.M. Shabalov, Sovetskaya pedagogika, no. 5-6, 1945, pp. 12-18.
36. Feshbach, op cit.
37. J. Stalin, Economic Problems of Socialism in the USSR, Moscow 1952, p. 74.
38. A. Mikoyan, Pravda, 18 February 1956, pp. 4-6 said, "Collective government is a Marxist-Lenist principle; it is a major advance toward communism." The speech on ideology was delivered by L. Kaganovich, Pravda, 21 February 1956, pp. 3-4, who outlined economic goals and means for achieving them, including wage reforms and increased labor productivity, and the political-ideological consciousness as the keys to communist construction.
39. Emphasis on heavy industry was present in the 1952 economic programs developed by Stalin's government, but 1953 changes included significantly greater attention to consumer and agricultural concerns. The point here is not the economic program, but the mechanics of central direction of government which were strengthened by Malenkov's government.
40. N. Khrushchev, Pravda, 13 April 1956, pp. 1-2.

41. R. Beerman, Soviet Studies, vol. 15, April 1964, pp. 420-429.
42. Izvestiya, 2 June 1954, p. 2 announced the first new admissions policies favoring persons with 2 years of work experience. N. Khrushchev, Dokumenti i materialy po perestroike shkoly, Moscow 1960, p. 62.
43. P. Shimbirev, Literaturnaya gazeta, 29 March 1951, p. 2. The argument was refuted by M. Skatkin, Literaturnaya gazeta, 19 April 1951, p. 2.
44. S.M. Shabalov, op cit, quoted Lenin as follows, "The principle of technical education is that it is not necessary to teach everything but it is necessary to teach the basics of industrial education." He continued to paraphrase Lenin to the effect that general education could produce a social scientists, but not a scientist.
45. M. Skatkin, Sovetskaya pedagogika, no. 1, 1950, pp. 27-45.
46. M. Skatkin, Sovetskaya pedagogika, no. 6, 1946, pp. 46-61.
47. Ibid.
48. Pravda, 14 September 1952, p. 3 called for "precise instructions on polytechnic education so as to avoid disruption and confusion". M. Melnikov and M. Skatkin, Politecheskoe obuchenie v obshchegrazhdatel'noi shkole, Moscow 1953. I. Kairov, Komsomolskaya pravda, 8 August 1954, p. 2 outlined changes to curricula, syllabuses and indicated that some new textbooks would be forthcoming.
49. Industrial Wage Workers
Level of Education Attainment, 1952
- | | |
|--------------------------------------------------------------|-------|
| With less than full primary schooling | 21.9% |
| With grades 4-7 | 45.0 |
| With grades 8-10 | 29.0 |
| With incomplete secondary specialised
or higher education | 2.0 |
| Illiterate | 2.1 |
- Source: V. Poletayev, Rabochiy klass SSSR, 1951-1965gg, Moscow 1969, p. 163, cited in Feshbach, op cit.
50. Stalin, op cit, p. 76.
51. Sovetskaya pedagogika, no. 10, October 1952, pp. 3-13.
52. I. Kairov, Komsomolskaya pravda, 8 August 1954, p. 2.

53. Uchitel'skaya gazeta, 17 July 1954, p. 1.
54. I. Kairov, op cit, p. 2; and Narodnoe obrazovanie, no. 9, 1955, pp. 47-60; and ibid, no. 7, 1955, pp. 37-44.
55. Sovetskaya pedagogika, no. 3, 1955, pp. 85-89. I. Kairov, Pravda, 9 December 1956, p. 3 noted that a variety of approaches were used for introducing polytechnic education, implying that these were uncoordinated initiatives.
56. Uchitel'skaya gazeta, 3 August 1955, pp. 3-4; and Pravda, 5 December 1956, p. 3.
57. Uchitel'skaya gazeta, ibid.
58. Ibid., and Narodnoe obrazovanie, no. 9, 1955, pp. 47-60.
59. Pravda, 5 December 1956, p. 3.
60. Ibid., and Pravda, 9 December 1956, p. 3.
- 60a I.N. Shumilin, Studies on the Soviet Union, vol. 2, no. 3, 1963, p. 127. indicated that the requirement for all students to work was not implemented. It was too difficult, especially at the skilled labor levels, and students did not constitute a permanent work-force, and were considered detrimental to production. In addition, he wrote that "the overall plan of a given enterprise is based on the norm of each individual worker, including the student worker, and this had to be fulfilled in terms of manhours and output. Yet the student had to attend lectures, do laboratory work, and sit for examinations, for all of which the law guaranteed him leave of absence. Then, after his production training was over, he left the enterprise and had to be replaced. This made more difficult the fact that he had been performing a skilled job in a particular speciality."
61. I. Kairov, Uchitel'skaya gazeta, 9 June 1955, pp. 3-4.
62. Ibid. I. Bakalo, Studies on the Soviet Union, vol. 3, no. 1, 1963, pp. 83-98 wrote that the failures of the 1956 experiments extended to both rural and urban settings, and were caused by poor equipment and technical supports at the schools. He also wrote that the school theory did not match the practical, often primitive, working conditions at the farm or factory.
63. Current Soviet Policies, New York: Praeger, 1957, p. 193.
64. N. Khrushchev, Pravda, 15 February 1956, pp. 1-11.

65. Vysshaia shkola, osnovnye postanovleniya, Moscow 1948, pp. 20-21.
66. Ibid.
67. Izvestiya, 11 January 1949, p. 3.
68. Pravda, 3 January 1949, p. 2.
69. N. Bulganin, Pravda, 22 February 1956, p. 1, and A. Korol, Soviet Education for Science and Technology, New York: MIT Press, 1957, p. 370.
70. Vestnik vysshei shkoly, no. 7, 1955, pp. 28-33.
71. Literaturnaya gazeta, 11 September 1956, p. 1 said that the two new universities (Yakut State University and Far East State University) each offered limited programs which were devoted to specific economic activities and to regional development priorities.
72. Izvestiya, 23 August 1956, p. 1.
73. N. Khrushchev, Pravda, 15 February 1956, pp. 1-11.
74. Feshbach, op cit, said that in some regions (e.g., in Estonia, for example) industrial managers (praktiki) were 70.6% at the end of 1956. Overall, praktiki were 51.4% in 1956, decreasing to 34.4% of industrial managers by 1959.
75. N. DeWitt, Soviet Professional Manpower, Washington, DC: National Academy of Sciences, 1955.
76. Matthews, op cit, pp. 253-258.
77. Vedomosti, 1954, no. 5 (799), text 97, and N. DeWitt, Education and Professional Manpower in the Soviet Union, Washington, DC: National Academy of Sciences, 1961, p. 40.
78. Izvestiya, 2 June 1955, p. 2.
79. Vestnik vysshei shkoly, no. 9, September 1957, pp. 3-5.
80. Ibid, no. 8, August 1957, pp. 3-10.
81. Pravda, 4 June 1958, p. 6.
82. Narodnoe khozyaistvo SSSR v 1960g, Moscow 1960, p. 730. Khrushchev cited in DeWitt, 1961, op cit, p. 135, said that compulsory education was not accomplished due to the high drop-out rate.

83. G. Bereday, The Changing Soviet School, Cambridge, MA: The Riverside Press, 1960, p. 85.
84. DeWitt, 1961, op cit, p. 135.
85. H. Noah, Financing Soviet Schools, New York: Teacher's College Press, 1966, pp. 63-73; and Kulturnoe stroitel'stvo SSSR, Moscow 1958, pp.
86. Pravda, 4 April 1954, p. 1; and I. Kairov, Izvestiya, 1 September 1953, p. 2.
87. Pravda, 7 July 1958, p. 1. Single-shift schools were developed in the Ukraine where there were state loans available for assisting the kolkhoz building program. DeWitt, 1961, op cit, p. 152.
88. Narodnoe obrazovanie v SSSR, sbornik dokumentov, 1917-1973gg, Moscow 1974, p. 465 said that the efforts would include ensuring standards for qualifications were met and by having periodic credentials checks during the process of reviewing wages.
89. A. Korol, Soviet Education for Science and Technology, New York: John Wiley and Sons, 1957, p. 48.
90. Narodnoe obrazovanie, 1974, op cit, pp. 463-464.
91. Izvestiya, 7 October 1954, p. 2; and Uchitel'skaya gazeta, 8 August 1954, pp. 2-3.
92. M. Denzko, Forty Years of Soviet Education, Moscow 1957, cited in Bereday, op cit, p. 146.
93. Sovetskaya pedagogika, no. 2, February 1955, pp. 116-118.
94. D. Lane, Politics and Society in the USSR, London: Weidenfeld and Nicolson, 1970, pp.
95. Pravda, 15 July 1956, p. 2.
96. Korol, op cit, p. 176.
97. Uchitel'skaya gazeta, 16 October 1954, p. 1.
98. N. Khrushchev, Pravda, 15 February 1956, pp. 1-11.
99. K. Voroshilov, Pravda, 21 February 1956, pp. 5-6. While Khrushchev related the problem to working mothers and single-parent families Voroshilov's view was that upbringing work by local soviets had been relatively neglected in relation to children's homes.

100. A. Shelepin, Pravda, 22 February 1956, p. 8. See also, A. Shelepin, Komsomolskaya pravda, 20 March 1954, p. 2 in which he noted that education and other faculties were insufficient for meeting the needs of Komsomol recruits in the Virgin Lands areas. Perhaps this was the basis for his apparent skepticism over the boarding schools proposal (over which there was already a general point of contention in relation to material supplies - Pravda, 16 September 1954, p.1). Uchitel'skaya gazeta, 15 October 1954, p. 2, indicated that the material supports for boarding schools were very poor.
101. Izvestiya, 19 May 1954, p. 2; and Pravda, 30 May 1957, pp. 1-4.
102. V. Elyutin, Pravda, 17 November 1957, pp. 3-4.
103. Komsomolskaya pravda, 20 April 1957, p. 2.
104. Sbornik zakonodatel'nykh aktov o trude, Moscow 1956, p. 50.
105. Pravda, 6 March 1954, pp. 1-4.
106. Pravda, 15 July 1954, p. 1; and ibid, 13 April 1954, p. 1; and Komsomolskaya pravda, 20 March 1954, pp. 2-4.
107. A.G. Rashchen, Istoriya SSSR, vol. 2, 1961, p. 23.
108. Ibid, p. 23.
109. Matthews, op cit, p. 250; and Narodnoe khozyaistvo SSSR v 1958g, Moscow 1959, pp. 692-693. The overwhelming majority were trained in programs in the Russian and Ukrainian Republics, thus supporting claims that the programs did not meet the needs of newly developing regions. One another article observed that "to the costs of training cadres should be added the considerable loss to the State when the technical skills of many hundreds of thousands of students were wasted on their joining the ranks of the tstenniki". Studies on the Soviet Union, vol. 3, no. 4, 1964, p. 47.
110. Rashchen, op cit, p. 20; and A. Sultanov, Istoriya SSSR, no. 6, 1959, p. 3.
111. R. Hutchings, Soviet Economic Development, Oxford: Basil Blackwell, 1971, pp. 81-98.
112. Pravda, 9 August 1953, p. 1; and Pravda, 10 August 1953, pp. 2-3.
113. H. Schwartz, The Soviet Economy Since Stalin, London: V. Gollancz, 1965, p. 67. The March 1953 consolidations were reversed in April 1954.
114. Sbornik zakonodatel'nykh aktov o trude, Moscow 1956, p. 179.

115. Pravda, 27 April 1954, pp. 8-9.
116. Sbornik zakonodatel'nykh aktov o trude, Moscow 1956, p. 179.
117. A. Zverev, Pravda, 8 February 1955, p. 2 mentioned that large numbers of personnel were shifted to regional enterprises and that there were very large savings in administrative costs.
118. Pravda, 15 September 1953, pp. 1-6; and Pravda, 21 February 1956, pp. 3-4.
119. Pravda, 13 November 1954, p. 3.
120. Sotsialisticheskii trud, no. 9, 1956, pp. 3-6.
121. Vedomosti, 1956, no. 10, (852), art. 203.
122. Feshbach, op cit.
123. In 1955, Bulganin's report on industrial development noted that management turnover was already 40-50% per annum in some decentralized economic units. Pravda, 17 July 1955, pp. 1-6.
124. Dewar, op cit.
125. Ibid.
126. (skipped)
127. Feshbach, op cit. Pension law in Sbornik zakon..., 1956, op cit., p. 436.
128. D. Granick, lecture to the Institute of Soviet and East European Studies, Spring 1985.
129. A. Nove, The Soviet Economy, London: George Allen and Unwin, 1968, p.
130. Pravda, 30 March 1957, pp. 1-4.
131. Vedomosti, 1957, no. 11 (878), text 275.
132. Ibid, section 18. I. Kuzmiv, Pravda, 5 April 1958, pp. 4-5; and Planovoe khozyaistvo, no. 6, June 1958, pp. 3-12.
133. Vedomosti, 1955, no. 8 (826), text 196.
134. N. Khrushchev, Pravda, 30 March 1957, p. 1; and Vestnik vysshei shkoly, no. 8, August 1957, pp. 3-10.

135. Vestnik vysshei shkoli, no. 9, September 1957, pp. 3-5.
136. Variations in the school schedule accommodated such factors in rural areas as the farm planting and harvesting. Pravda, 8 July 1958, p. 2.
137. (skipped)
138. Vedomosti, 1959, no. 1 (933), text 1; and ibid, 1958, no. 7 (902), text 146.
139. Pravda, 14 December 1956 cited in R. Conquest, op cit, p. 16.
140. Pravda, 7 July 1958, p. 1 discussed the slow progress in school construction after 1957. Financial incentives and public participation were apparently key factors in the Ukraine's successful program, especially in rural areas. There is some indication that the Ukraine re-established mandatory "voluntary work contributions" for this purpose.
141. N. Khrushchev, Pravda, 19 April 1958, pp. 1-3.
142. Izvestiya, 18 June 1958, p. 2.
143. S. Senyin, Komsomolskaya pravda, 10 June 1958, p. 2.
144. Planovoe khozyaistvo, no. 6, June 1958, pp. 3-12.
145. G. Zelenko, Pravda, 26 August 1958, p. 2.
- 145a A. Shelepin stated that the Labor Reserve schools annually graduated students whose skills were not needed. Some remained unemployed for a period of time or else required re-training. Komsomolskaya pravda, 16 April 1958, pp. 2-5.
146. G. Zelenko, Komsomolskaya pravda, 10 September 1958, pp. 2-3.
147. I. Kairov, Pravda, 6 September 1958, pp. 2-3.
148. G. Zelenko, Komsomolskaya pravda, 10 September 1958, pp. 2-3.
149. Ibid.
150. V. Elyutin, Pravda, 17 September 1958, pp. 3-4. Note, however, that higher education had fields of study for which there was little demand and there may also have been unemployment at this level of training as well.
151. Pravda, 21 September 1958, pp. 2-3. I. Shumilin said that opposition to student employment continued to the extent that the Ministry of Higher Education took an attitude that worker-student duties were separate from one another and that time off work for academic purposes was not justified. Studies on the Soviet Union, vol. 2, no. 3, 1963, p. 126.

152. Pravda, 16 November 1958, pp. 1-3.
153. Pravda, 24 December 1958, p. 10.
154. V. Perevedentsev, Voprosy ekonomiki, no. 5, May 1962, pp. 48-56.
155. N. Goncharov and A. Leontyev, Pravda, 21 November 1958, p. 3.

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